

O-13 Early childhood caries (ECC) among pre-school children in Northern Philippines
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This study was conducted to obtain baseline epidemiological data on early childhood caries (ECC) among pre-school children in Northern Philippines, towards formulation of specific oral health programs for Filipino pre-school children. The sample consisted of 993 children ages 2-6 years old (mean age 4.7 years) from Baguio City, San Jacinto (Pangasinan) and Bontoc (Mt. Province). ECC was defined in this study as the occurrence of dental caries in any one tooth/ tooth surface. Caries experience was evaluated at the cavitation level following WHO guidelines for oral health surveys. Overall ECC prevalence was 91% (2 y=59%, 3y=85%, 4y=91%, 5 y=94%, 6 y=93%). Average dmft was 9.2 (df=9.0, ml=0.2, fl=0.01) indicating a high rate of unmet treatment needs. Caries experience was very skewed among the children: 19.9% had 1 to 5 df, 29.9% had 6 to 10 df, 26.7% had 11 to 15 df, and 13.5% had 16-20 df. Analysis of rates of carious attack among individual teeth show that maxillary central incisors were highly involved (#51=71%, #61=70%), followed by mandibular molars (#74=67%, #75=67%, #84=66%, #85=66%). There were no statistically significant differences between boys and girls, nor between children from the urban and rural areas (one way ANOVA, p>0.05). Results indicated a high prevalence of ECC among pre-school children in Northern Luzon. Oral health programs emphasizing preventive measures and dental health education are urgently needed.

O-14 Caries control programme for children in China – one year results
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Objective: The purpose of the study is to investigate the effects of a 3.8% silver diamine fluoride solution (Safotide) and a 5% sodium fluoride varnish (Duraphat) in preventing and arresting carious lesions in anterior primary teeth of preschool children in Southern China.
Design: 375 children, aged 2-5 years, with caries in their upper anterior teeth were randomly divided into 5 groups receiving 1) caries excavation and application of Safotide annually; 2) caries excavation and application of Duraphat every 3 months; 3) annual application of Safotide; 4) application of Duraphat every 3 months; and 5) water as control. Status of the six upper anterior teeth were recorded at baseline and follow-up examinations at 6 and 12 months. Caries was diagnosis as present when there was a cavity with detectably soft dentine.
Results:

Treatment group	No. of Children	Baseline ds / child	New caries surface / child	Arrested caries surface / child
1. AgF +excavation	71	4.1 ± 2.4	0.4 ± 0.8	2.4 ± 2.1
2. NaF +excavation	71	4.0 ± 2.7	0.6 ± 1.4	1.2 ± 1.6
3. AgF	70	4.3 ± 2.8	0.5 ± 1.0	1.9 ± 2.4
4. NaF	70	3.9 ± 2.6	0.6 ± 0.9	1.0 ± 2.7
5. Control	71	3.9 ± 2.6	1.0 ± 1.3	0.5 ± 1.0
Significance	N.S.		p<0.05	p<0.001

Conclusion: The one year results support the effectiveness of silver diamine fluoride and sodium fluoride in preventing and arresting carious lesions in anterior primary teeth.
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O-15 Caries and oral pain status among Malaysian drug addicts. SUJAK SL, ABDUL-KADIR R.*, ROZIAH O. Wilayah Persekutuan Dental Division, Ministry of Health and University of Malaya, Kuala Lumpur, MALAYSIA.

Several studies have shown that oral pain due to dental caries can affect one's quality of life and also how one coped with the problem. A descriptive study to look into the impact of pain due to dental caries was conducted among a group of randomly selected Malaysian drug addicts undergoing rehabilitation programme in 13 rehabilitation centres. Oral examination to determine caries experience and an interview-questionnaire survey on pain status and coping were used as the measurement tools. This paper reports on the findings from 599 subjects who complied to both oral examination and the interview survey. Results from the survey showed that caries was highly prevalent (96%) in the sample examined. The mean DMFT was 8.8 (s.d 6.6), the major proportion being contributed by missing teeth due to caries (4.3 s.d 5.7) and decayed teeth (3.6 s.d 3.6). Of those who had caries, 54.8% said they experienced pain during the last one year. Slightly more than a third (37.5%) stated that the pain was severe. To the question as to how they coped with the pain, the majority (37.8%) answered that they had resorted to self medication, slightly less than 30% decided to seek for dentist's help while another 15.5% decided to leave it alone. It is interesting to note that some 14.9% consulted the physician instead. Subjects were also asked as to how oral pain affect their well being. Findings showed that feeling mentally disturbed (47.9%), unable to sleep (42.4%), unable to eat and drink (41.2%), moody and easily angry (40.2%) and unable to focus on their work (32%) ranked in the top five most common reactions to oral pain. Findings from this study conclude that oral pain such as one derived from dental caries can affect one's quality of life and well being.

O-16 The prevalence and distribution of gingival recession in Thai elderly.
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The purpose of this study was to describe the prevalence and distribution of gingival recession in Thai elderly. As part of a longitudinal geriatric oral health study, 453 community dwelling dentate subjects, 51 to 92 years of age, were examined at baseline in 1999. All remaining teeth were measured on four periodontal sites to assess the amount of gingival recession. The percentage of surfaces with recession increased with age from 49.1% in 51-59 year olds to 60.6% in 60+ year olds (p<0.001). Males showed greater levels of recession than females (p<0.001). Regression analysis for the percentage of buccal surfaces with recession showed that recession was associated with age, sex, cervical abrasion, and amount of calculus (R²= 0.142, p<0.001). However, the regression model for the percentage of all surfaces with recession did not find an association between recession and cervical abrasion. Hence, it appears that gingival recession on different locations may involve different processes. This study was supported by TRF grant No. RDG3/09/2541.

O-17 Factors Associated with Pain Experience of Patients after Periodontal Surgery. Koh CG*, Ong MMA, Ong ESM, Tay FBK & Lim LP (National Dental Centre, Singapore)

It is generally perceived that pain is a common occurrence following surgical procedures. There is little data on pain experience following periodontal surgery in the Asian population. The aim of this paper was to explore various factors that may be associated with pain experience following periodontal surgery. 102 subjects aged 15-71 were asked to fill in a report of their pain experience at periodic intervals 1-3 days following periodontal surgery. Pain was assessed according to the Visual Analogue scale (VAS). All subjects were randomly given either Paracetamol 1000mg or Mefenamic Acid 250mg immediately following periodontal surgery as part of a clinical trial. Peak VAS was reported at 6 hours after periodontal surgery. The VAS values subsequently decreased 1, 2 and 3 days following surgery. Factors that were considered were gender, age, type of surgical procedure, number of teeth involved, prescription of antibiotics and time taken for surgery. No significant differences in VAS value were found at the various time periods when analysed by Non-Parametric tests (P>0.05) except for marginal differences. 53 subjects did not require a second dose of analgesic following surgery. Those who required a follow-up dose of analgesic had significantly higher VAS values. In conclusion, the results appear to suggest periodontal surgery is perceived to inflict relatively little post operative pain in over 50% of patients. Gender, complexity of the procedure and prescription of antibiotics were not significantly associated with perceived post-operative pain.

O-18 Comparison of two analgesics in controlling Post Operative Pain following Periodontal Surgery LIM LP*, KOH CG, ONG MMA, ONG ESM & TAY FBK (Faculty of Dentistry, National University of Singapore)

Analgesics have been routinely given to patients following periodontal surgery. The aim of this study is to compare the relative effectiveness of two common analgesics used in controlling post-operative pain. 102 patients aged 15-71 undergoing periodontal surgery participated in the study. Subjects were randomly divided into 2 groups. Immediately following periodontal surgery, one group received 1000mg Paracetamol, another group received 250 mg Mefenamic Acid (Ponstan). Patients were asked to take further doses at 6-8 hourly intervals if necessary. Subjects were requested to record the perceived pain experience as measured by the VAS (Visual Analogue scale) at various time periods following periodontal surgery. Lower VAS values were found in the Mefenamic Acid group as compared with the Paracetamol group after 2 hours, 4 hours and 6 hours post-operatively; at day 2 and day 3. The differences were however not statistically significant when analysed by Mann Whitney U test (P>0.05). When the scores of the individual group were compared separately, while VAS values immediately following surgery were significantly lower than during the subsequent hours for both groups (P<0.05); the discrepancies in VAS levels between the post-operative periods of 2 hours, 4 hours and 6 hours were more marked in the Paracetamol group than the Mefenamic Acid group. In conclusion, while no significant differences in VAS values were found between Paracetamol and Mefenamic Acid at the various time points following surgery, the results appear to indicate Mefenamic Acid may be more effective in reducing post operative pain during the immediate post-operative periods. Due consideration should also be taken to other contributory factors which may explain the pain experience following periodontal surgery

O-19 Protease Activated Receptors in Thrombin Induced Gingival Fibroblasts Activation. J.H. JENG*, M.C. CHANG (School of Dentistry, National Taiwan University and Chang-Gung Institute of Nursing, Taiwan)

Thrombin is a serine protease produced following gingival tissue injury or inflammation. It regulates the functional behavior of neighboring cells via activating the specific protease-activated receptors (PARs). In the present study, thrombin (> 1 U/ml), but not thrombin receptor (PAR-1) agonist peptide (SFLLRN, TRAP, 1-50 µg/ml), stimulated the growth and clustering of cultured human gingival fibroblasts (GF). Growth stimulatory effects of thrombin was inhibited by D-Phe-Pro-Arg-CH₂Cl (PPACK), a serine protease inhibitor. On the contrary, trypsin (> 10 µg/ml), a PAR-2 activator, suppressed the growth of GF. Thrombin (> 0.2 U/ml) and TRAP (10-25 µg/ml), but not trypsin, PGE₂ (0.01-0.5 µg/ml) and BSA (1-80 µg/ml), induced the GF-populated collagen lattice contraction within 30-60 min of exposure. Thrombin-induced collagen lattice contraction was inhibited by PPACK (20 µg/ml) and an actin filament polymerization inhibitor, cytochalasin B (1 µg/ml). TRAP induced collagen lattice contraction was also inhibited by cytochalasin B, but not by PPACK. Concomitantly, thrombin (5 U/ml) induced the c-fos and c-jun mRNA expression of GF within 1 h of exposure, whereas stimulation of c-myc expression occurred 7 h later. Stimulation of c-fos and c-myc mRNA expression by thrombin could be inhibited by PPACK (20 µg/ml). Interestingly, TRAP (50 µg/ml) induced c-fos but not c-myc mRNA expression. Using reverse-transcriptase polymerase chain reaction (RT-PCR), expression of PAR-1 and less PAR-3, but little PAR-2 and PAR-4 in human GF was found. These results indicate that thrombin are important in the periodontal wound healing by promoting the growth and contraction of GF. Differential activation of PARs by thrombin and the subsequent early gene expression are crucial for these biological effects.

O-20 *Jatropha curcas* latex inhibit collagenase release by fibroblast
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Jatropha curcas (Euphorbiaceae) latex, among others is used traditionally for a mouth wash in bleeding gums, to cure toothache, and as an antiinflammatory in trauma. Bleeding gum is a sign of gingivitis or periodontitis where collagenase plays a role in its pathogenesis. The objective of this study was to investigate the effect of latex on the collagenase release by fibroblasts. To this end, human gingival fibroblast cells were cultured in 6-well plates in DMEM-0.1% BSA added by 4 concentrations of latex (37.5 to 300 µg/ml) and 10 ng/ml interleukin-1 beta to activate collagenase production. Following 1 to 4 days of incubation, supernatant was taken and stored at -20°C. Enzyme assay was performed using collagen as a substrate, and the reaction products were separated by SDS-PAGE. After CBB staining, followed by destaining, the 3-4 αA bands, which are characteristic of collagen breakdown, were measured semiquantitatively by Adobe Photo computer program. The results showed that the addition of increasing amounts of *J. curcas* latex narrowed the bands, which were no longer observed at 300 µg/ml latex. It is concluded that *Jatropha curcas* latex inhibited the release of collagenase by fibroblasts. The study was funded by RISBIN-IPTEKDOK and H-J Freisleben. The authors would like to thank The Institute fuer Physiologische Chemie, Johannes Gutenberg University, Mainz, Germany, for performing the study.