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Oral Session O13 – Epidemiology 1

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Oral Session O13/Epidemiology 1

O13–92

Prevalence of dental fluorosis and the influence of water fluoride level on caries activity

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Introduction: The aim of the study was to: (i) map the fluoride level in drinking water; (ii) determine the level of dental fluorosis; and (iii) assess influence of water fluoride levels on caries activity in 12–15 year old school children in Thiruvallore district.
Materials and methods: Water samples were collected from various towns of Thiruvallore district. The estimation of fluoride in the samples was done by spectrophotometric method. Subsequently an equal number of schoolchildren aged 12–15 years (n = 2x500) were examined, from towns which showed high and low fluoride levels. Dental fluorosis was recorded using Dean's index. The DMFT index was used to record caries experience (WHO 1987) in all erupted permanent teeth. A single examiner carried out all the examinations.
Results: The results of the fluoride mapping revealed that Thiruvallore town showed a high fluoride level (2 ppm) compared to Poondi town (0.13 ppm). The results of the dental examination showed that the prevalence of dental fluorosis in Thiruvallore was higher (23.2%) when compared to Poondi (4.6%), while the prevalence of dental caries was higher in Poondi (78%) when compared to Thiruvallore (59%).
Conclusion: There exists an inverse relationship between the prevalence of dental fluorosis and caries activity that depends on the fluoride level in water.

O13–93

A comparison of DGA for children in ambulatory and stationary care (Hesse/Germany)

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Introduction: Between 1993 and 2002 an increasing number of children with need of dental general anaesthesia (DGA) were presented in the University Department of Paediatric Dentistry. This increase could not be managed by the University Department anymore thereupon a 'Hesse-wide' distributorship was established to conduct ambulant DGA. Only children with severe diseases and/or disabilities remained to be treated stationary at the University. The aim was to compare ambulatory and stationary care after a five-year-term.
Patients and methods: Between 2002 and 2006 the number of children in ambulatory (A) and stationary (S) care with need for DGA was 1004 children (aged 1–15 years). Dental status of these children was assessed. Furthermore the evaluation included the type of specialisation of our ambulatory co-operation partners as well as the extensiveness of stationary therapy. Statistical analysis was performed with SPSS® for Windows, version 16.0.
Results: Group S comprised 194 children (19.3%) and group A comprised 810 (80.7%). Ambulatory patients were referred to oral-and-maxillofacial-surgery (48.3%), pedodontic- (35.1%), general- (6.3%) and operative-dentistry practice (5.8%) and other dental clinics (4.6%) qualified for ambulatory DGA. The mean DMF(T) + dmf(t)-combination-value for group S was 9.6 and for group A 10.5. Age differentiation showed that for both groups incidence of DGA was highest in the age group 2–4 years with S = 44.8% and A = 46.3%. This correlates with the prevalence of ECC-Type-II among the children investigated here: 65.4% in group A and 61.3% in group S.
Conclusion: Results show that DGA that were formerly conducted in a University Department can be very well taken over by ambulatory co-operation partners. Finally the generally increase of DGA dominates in the group of children with extreme dental destruction aged 2–4 years with Nursing–Bottle–Syndrome (ECC II).

O13–94

Parental knowledge and behavioural aspects regarding oral health of preschool children

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Introduction: In general, the oral health of Dutch children is good. Nevertheless, a recent survey showed that only about 44% of five-year olds are caries free. The early onset and progression of caries can positively be influenced if recognised at an early stage. Many preschool children do not visit a dentist regularly. Little is known about their dental situation. The Dutch Youth Health Service is required to pay specific attention to oral health education for this age group in Maternity and Child Health Centers (MCHC's being part of Home Care Organisations).
Materials and methods: To study the efficacy of the MCHC's with respect to oral health as well as the quality of the information given, the parental knowledge and behavioural aspects regarding oral health of preschool children was assessed. Using a digital questionnaire, dental students have interviewed almost 700 parents/caretakers at different MCHC's of five geographically spread major Home Care Organisations. The questionnaire focused on nutrition, oral hygiene, general oral health and general dental behaviour. Parallel research among local dentists is due to be carried out.
Results: Preliminary results indicate that parental knowledge of nutritional and oral health aspects is limited. 30% of the parents did not know when to start dental visits (70.2% had children up to 30 months).
Conclusion: It may well be advisory to develop an oral health program in which both dental professionals and MCHC personnel participate to provide complementary preventive attention to the oral health of preschool children. This project is supported by GABA International AG.

O13–95

Parents' locus of control and caries in their toddlers

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Introduction: The early and efficient selection of young children for special preventive dental care remains a challenge. One method could be the selection based on the parents' locus of control about oral health. The aim of the study was to examine the relation of caries prevalence in toddlers and their parents' attitudes about their responsibility for oral health.
Patients and methods: 703 under 3-year-old children were examined in nursery schools at Hamburg. Caries was recorded including initial caries. The parents filled in a short questionnaire with 5 questions, each at a six-point-scale, about their attitudes about the responsibility for oral health. The parents' attitudes were statistically related to the caries experience of the toddlers.
Results: 11.2% of the children exhibited dental caries. The mean dmft value including initial lesions was 0.4 ± 1.5 for all children. The question about the parents' perceived impact on oral health was best related to the caries findings. Children's dmft scores related to this question ranged from 0.3 ± 1.4 (parents stating to have very high impact) to 0.7 ± 1.4 (parents stating to have less or no impact; $P = 0.010$, Kruskal–Wallis-test). Similarly, the prevalence of caries-free children was significantly correlated to this question ($P = 0.005$, chi-square-test). However, in the group of children whose parents perceived to have little impact on their oral health ($n = 42$) only 10 children exhibited caries, which corresponds to 12.7% of all toddlers with caries-experienced.
Conclusions: Although confirming a correlation between parents' low locus of control and caries in their toddlers the efficacy of a preventive concept focussed on this relation will be limited.

O13–96

Relationship between oral health, socioeconomic parameters and BMI in 6-year-old Filipino students

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Introduction: The aim of this study was to investigate the relationship between oral health, socioeconomic parameters and the Body Mass Index (BMI) in 6-year-old Filipino students.
Subjects and Methods: 2030 six-year-old public elementary students were involved in the national oral health survey (2006) using a stratified cluster sampling. Students were examined using WHO basic methods (1997). Complete data on caries prevalence, caries experience, weight, height, number of siblings and TV ownership of 1962 students (945 boys and 1017 girls) were used for the present investigation. Children were divided into the BMI classes underweight, normal and overweight based on international cut-off points (Cole *et al.,* 2007). Data analysis consisted of descriptive statistics, analysis of variance and appropriated post-tests to determine significant differences ($P < 0.05$) between the groups.
Results: 97.1% of 6-year-olds suffered from dental decay. Caries experience was 28.2 dmfs/8.4 dmft and 1.1 DMFS/0.7 DMFT. 40.1% of the students had underweight. Underweighted students revealed significantly higher dmfs/t-, DMFS/T-, ds/t- and DS/T-values, and had a significantly higher mean number of siblings compared to their normal/overweighted contemporaries. Ownership of TV was significantly lower in the group of children with underweight.
Conclusions: The survey data confirms that socioeconomic status and family size are related to caries experience. Furthermore untreated dental caries affects growth and general health in Filipino students. Given the high burden of oral disease and the high prevalence of underweight children, prevention of dental caries should be a priority for all health professionals and in any national child health plan.

O13–97

Re-examination of caries experience and fluorosis prevalence of children in Jamaica

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Introduction: In Jamaica salt fluoridation has been established in 1987. In addition, fluoride toothpaste (≥1000 ppm) became available in 1972. Both means of fluoridation are beneficial in the caries process, but, if used excessively, fluorosis might occur. The aim of this cross-sectional study was to re-examine caries experience and fluorosis prevalence among 5–/6- and 11–/12-year-olds in St. Elizabeth in Jamaica. In 1999, dmft/DMFT (SD) of 6- and 12-year-olds were 3.2 (3.5) and 2.2 (2.1), respectively. Fluorosis was prevalent in 48% of the children.
Subjects and Methods: We examined 789 school children for caries experience (dmft/DMFT; D3-level) and fluorosis prevalence (TSIF) in 2006. Fluorosis scores were compared using chi-square tests. Water fluoride concentrations (WFC) were determined.
Results: Mean (SD) dmft- and DMFT-scores were 2.4 (3.1) [median (25th and 75th percentile): 1 (0; 4)] and 2.2 (2.3) [median (25th and 75th percentile): 2 (0; 4)] for the 6- and 12-year-olds, respectively. Fluorosis prevalence (TSIF > 0) of upper central incisors was significantly higher in 6– (67%) compared with 12-year-olds (39%) ($P < 0.05$). Moderate fluorosis (TSIF 3 + 4) on the upper central incisors could be observed in significantly more 6-year-olds (22%) compared with the older children (12%) ($P < 0.01$). WFC was below 0.3 mg F/l for 73% of the children, two communities showed increased WFC of 0.7 mg F/l.
Conclusion: Compared with 1999, caries experience seems to be slightly lower in 6-year-olds. Fluorosis prevalence was considerably high in particular in 6-year-olds. This indicates the need to discuss current recommendations for fluoride use in Jamaica.

O13–98

Reasons for seeking dental care among children in Chennai, India

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Introduction:
The aims and objectives of this study were 1. To identify the most common reason for seeking dental care for children, 2. To evaluate the variations in complaints amongst different age groups in children, 3. To determine whether parents seek preventive dental care for their children.
Materials and methods: Patient records from Pedo Planet, Pediatric Dental Centre, were studied covering the period from May 2004 to January 2009. A total of 990 patient records were assessed,

reviewed and verified (N-990). Sixty five records were excluded from the study due to insufficient data. Children were grouped based on the age; Group I: 0–3 years, Group II: 4–6 years, Group III: 7–12 years, Group IV: 13–19 years. The various reasons for seeking dental advice were categorized as General Check-Up, Decayed Teeth, Pain, Swelling, Deposits/Stains, Bad Breath, Sensitivity, Bleeding, Habits, Mal-alignment, Orientation towards Prevention, Soft Tissue Problems, Trauma, Un-erupted or Missing Tooth, Mobile Tooth, Retained Milk Tooth, Food / Foreign Body Impaction and Others.

Results: Overall 36.5% of children were presented to the dental centre with the chief complaint of decayed teeth, of which 52.1% belonged to Group II. Pain was found to be the chief complaint in 18.1% of patients of which 44.9% belonged to Group III. Mal-alignment was recorded in 17.3% of patients and 60.6% of these patients belonged to Group III. Overall 6.9% of children were presented for preventive measures of which 42.2% belonged to Group III.

Conclusion: This study demonstrated that parents most often seek dental care for problems like decayed teeth, pain and mal-alignment rather than seeking dental assistance at a much earlier stage for preventive measures.

O13–99

Oral health and associated factors in 12 year-old children in Thimphu, Bhutan

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Introduction: Since 1999, Bhutan has experienced rapid socioeconomic transformations that changes people's lifestyle. This study was undertaken to assess oral health of children focusing on caries prevalence expressed as DMFT and periodontal conditions and associated factors in 12 year-old children residing in Thimphu, the capital of Bhutan. The total student population in 12 years age group is 4,417 out of the total city population of 80,000.

Patients and methods: The study was approved by the Institutional Review Board–Mahidol University and the National statistical Bureau–Royal Government of Bhutan. A total of 461 children age 12 years with permanent dentition were randomly selected and underwent oral examination after positive parental consents. A structured questionnaire regarding family socio-economic status (SES), knowledge, attitude and practice related to oral health and dental care were filled out by the children with the help of their parents on SES. Caries and periodontal status were recorded as per the WHO methods. Descriptive statistics were applied.

Results: The mean DMFT was 1.24 (range 0–6) with Significant-caries-index 2.9.The mean DT was higher than MT and FT. About 60% of children had calculus. Most children exhibited adequate knowledge, good attitude, optimum hygiene and diet practice. Forty percent of children had never been to dental services.

Conclusions: The caries prevalence is low compared to the only previous study in 1985, but the results should be interpreted with caution as other towns in the country were not included. Oral health promotion should be emphasized due to limited number of dental personnel in the country.