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Poster Session P12 – Epidemiology 1

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# Poster Session P12/Epidemiology 1

## P12-164

### Early childhood caries in children up to 4 years of age in Chile

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**Introduction:** The prevalence of ECC (Early Childhood Caries) has been a significant public health issue. For this reason, it has been studied in children two and four years old. As a pathology, it is considered to be severe, of rapid advance, aggressive, expensive and difficult to handle. The main objective of our investigation was to determine the prevalence in a population of 500 children at social risk in the age group of 0–4 years.

**Patients and methods:** We examined 180 Chilean children from five Integra kindergartens in SanPedro, VIII Region. The exam was conducted by only one examiner, during the morning, with a dental mirror and a frontal LED lamp, from December 2007 to January 2008. The data was registered in the WHO Medical Records and we used the dmft for the calculation of caries. For the statistical calculations, we used the SPSS 15.0.

**Results:** The dmft was higher among girls (2.7) with a prevalence of 53%. Among boys, the dmft was 2.3 with a prevalence of 44%. The dmft was zero in children that were 0 to 11 months old. For those who were 12 to 23 months old, it was 1.05 with a prevalence of 17%, from 24 to 35 months old, it was 1.65 with a 26% prevalence, and among children 36 months and older, the dmft came to 4.68 with a prevalence of 57%.

**Conclusions:** The prevalence of ECC in children 0–4 year-olds was 49%. The dmft was 2.5 on average. Therefore, it is urgent and necessary to implement caries preventive programs for these children and to do research on the risk factors that influence the prevalence of cavities of this pathology. The patron was San Sebastian University.

## P12-165

### The relation between dental caries and BMI in pre-school children in Babol, Iran

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**Introduction:** The aim of this study was to evaluate the relationship between dental caries and BMI in pre-school children.

**Materials and Method:** This descriptive-analytical study was on 600 pre-school children of kindergartens in Babol, Iran. The (dft) counts were obtained. The Body mass index (BMI; kg/m<sup>2</sup>) was calculated, and participants were categorized using age- and gender-specific criteria as underweight (<5th per cent), normal (5th–85th per cent), at risk of overweight (>85th and <95th per cent), and overweight (>95th per cent). The relationships between dft and BMI were assessed using the chi-square and *t*-test.

**Results:** Among 600 children, 62% were normal, 22.7% were underweight and 6% of them were at risk of overweight and 9.3% of them were overweight. 32.5% of children were caries free and mean dft values in underweight, normal, at risk of overweight and

overweight were 2.25, 3.45, 2.5 and 2.78 respectively. The least amount of decay and fillings was seen in those who were underweight and the most amount of decay and fillings was observed in those at risk of overweight ( $P = 0.03$ ). Furthermore the mean of weight in children with 5 decays and more was significantly higher than that of others ( $P = 0.002$ ). By increasing the educational level of parents, the percentage of caries decreased significantly in children ( $P < 0.0001$ ). There was no significant relation between dft and BMI ( $r = 0.016$ ,  $P = 0.69$ ).

**Conclusion:** The lowest and the highest dft values were observed in underweight and at risk of overweight respectively. Also, by increasing the mean of weight, the decay increased significantly, and parents with high educational level had more caries free children.

## P12-166

### Caries pattern and the related socio-economic factors in pre-school children in Taiwan

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**Introduction:** The purpose of this study was to determine the caries pattern and the relationship between caries and socio-economic factors in pre-school children in Taiwan.

**Materials and methods:** Stratified multi-stage cluster sampling was used in this cross-sectional study. A total number of 3044 children aged 3–6 years throughout Taiwan received an oral examination. Each subject was categorized into one of the five caries patterns: caries free, pit and fissure defects, facial-lingual lesions, molar approximal lesions and facial-lingual with molar approximal lesions. The socio-economic status of children's family was assessed by parental occupation and education level. The Chi-square test was used to analyse the association between caries patterns and socio-economic factors.

**Results:** The percentage of caries-free children decreased with age, only 26.5% of total samples were caries-free in 5-year-old children. The facial-lingual pattern along with the pit and fissure pattern show a slight decrease from 3- to 5-year-olds, while the facial-lingual/molar approximal pattern increases significantly with age. The molar approximal pattern occupies the least part among all age groups. Children from families with a higher socio-economic status have lower caries rates.

**Conclusion:** Caries pattern of pre-school children changes with age. Most of the caries lesions were observed in the investigated age group were located on smooth surfaces. Socioeconomic factors are related to caries pattern in pre-school children.

# P12-167

## Research of sealant treatments for the intervention in school children of Aborigines

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**Introduction:** The children in aboriginal area have a worse dental status in comparison to urban. Therefore, the priority of this project was to lower the caries prevalence and to promote oral health. Our program included oral hygiene instructions for one year and follow-ups for a consecutive year. Further, we applied pits and fissures sealants on occlusal surfaces of permanent first molars in school-children of Tao-Yuan County, Taiwan, to evaluate the dental health outcomes.

**Materials and methods:** The study design is purposive sampling. The treatment group consisted of 122 and the control group of 148 school children aged from 6 to 9 years old ( $7.54 \pm 0.59$ ). The treatment group was examined every 6-month and the pit and fissure sealants were assessed. The control group received oral examination without any treatments. The sealing procedure was performed mainly by dentists and resin-based sealants (3M) were applied. The data were analyzed using the JMP 5.0.

**Results:** The baseline DMFT of treatment and control group were 0.95 and 1.33 respectively. The final mean DMFT values amounted to 1.54 and 1.62. A total of 589 molars were sealed. In the treatment group  $64.85\% \pm 40.32$  permanent molars were non-decayed and in the control groups  $54.42\% \pm 37.21$ . The *P*-value amounted to 0.0205.

**Conclusion:** Pit and fissure sealant are effective in preventing occlusal caries in permanent molars.

# P12-168

## Oral health status and treatment needs of elementary school children in Taiwan

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**Introduction:** According to previous research the oral health status of Taiwanese elementary school children has to be assessed as low. Current national public health policies include fluoride containing mouth rinses and regular tooth brushing in a nationwide school-based oral health prevention program. The aim of this study was to analyze the oral health status and treatment needs of children from elementary schools in Taiwan.

**Materials and methods:** 4416 children from 1- to 6-grade schools were recruited by a stratified cluster sampling method with probability proportional to size. Subjects were examined according to WHO (1997) basic methods.

**Results:** In 6-year-old children, DMFT index and caries prevalence of permanent teeth were 0.25 and 10.44%. The DMFT index and caries prevalence of permanent teeth were 2.2 and 67.0% in

12-year-old children. 0.6 teeth per child needed one-surface restorations and 0.5 teeth needed two-surface restorations. 0.1 teeth needed more than three-surface restoration. 0.2 teeth needed pulp therapy and 0.3 teeth needed extraction.

**Conclusion:** The DMFT index and caries prevalence had increased promptly in this study.

# P12-169

## Assesment of hygiene procedures among dental practitioners in Istanbul, Turkey

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**Introduction:** The risk of infectious disease transmission is an inherent part of dental practice. The aim of this study was to investigate the hygienic quality of dental practices based on the self-awareness expressed by dentists' respondents to a questionnaire about the hygiene characteristics of practice and the preventive procedures in general dental practices in Istanbul, Turkey.

**Materials and methods:** In this questionnaire; the ways of cleaning, disinfection, sterilization of the dental equipment and instruments and disposable materials were investigated. The SPSS was used to analyze the data of the study.

**Results:** A Hundred and twenty general dental practitioners were participated to the survey in Istanbul, Turkey. Of the total respondents, 60 were males (50%) and 60 were females (50%). The remarkable point was that the majority of general dental practitioners were applying general infection control procedures in their clinics. As regards general hygiene rules, no statistically significant differences between genders (*P* = 0.088) The results were with regard to the protection as follows: 55.5% of the general dental practitioners wear caps, 84.2% wear masks. 87.5% of general dental practitioners wear gloves routinely in their clinical work. 99.2% of them do the floor cleaning daily with using the disinfectant solution. 53.8% of practitioners sterilize their dental equipment and instruments with an autoclave and 90% use an antiseptic or disinfectant solution.

**Conclusion:** In conclusion, the results of this study confirm a good structural and organizational status, but there is the need for further education concerning in a number of areas such as hygiene characteristics of practice and the preventive procedures of cross-infections.

# P12-170

## Oral status of 12- to 18-year-old students in Taiwan

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**Introduction:** The aim of this study was to investigate the current oral status in adolescents aged from 12 to 18 years.

**Materials and methods:** A total of 4416 students from the cities and counties in Taiwan were included in this study. Stratified survey sampling design and Probability Proportional to Size (PPS) were used for the selection of 384 12- to 18-year-old students. Subjects were examined for according WHO (1997) basic method. Data were analyzed using SAS 8.2 and JMP 5.1.

**Results:** The mean DMFT index for each age group ranged from 2.8 up to 5.1, respectively. The caries prevalence in the permanent dentition was between 42.8% and 57.8%. The mean number of decayed teeth needing treatment was 2.0. The adolescents had an average of 1.2 teeth needing one surface filling. For the plaque index, 81.5% showed a thin or moderate plaque accumulation. In 5.7% of the cases heavy plaque accumulation were found. In 34.7% of the adolescents a mild gingivitis was diagnosed, in 2.8% a severe gingivitis and in 29.5% calculus was found. For the calculus index, 24.9% had less than 1/3 calculus deposit, and only 3.4% had calculus deposition of more than 1/3. For the CPI index, among the participants aged 15–18 years 25.97% had healthy gingival tissue, 30.2% had bleeding, 32.8% had calculus deposits, 11.0% had pocket depth more than 4–5 mm.

**Conclusion:** Compared with the results surveyed in 2000, the oral health status of adolescents aged 12–18 years old has improved. The caries prevalence decreased by approximately 30%.

## P12-171

### Oral health knowledge of 8- to 12-year-old Turkish children and of their parents

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**Introduction:** This regional cross sectional study should describe oral health behaviors, knowledge and attitudes among 8- to 12-year-old Turkish children and their families. Further we aimed to assess potential risk factors.

**Materials and methods:** A total of 2675 children aged between 8 and 12 years who could read and write were randomly selected from 15 different schools representing a total of 255 schools of Adana. A total of 2458 children were included in the study. Children asked to out fill the self-administered questionnaire in their classroom supervising by a researcher and a questionnaire send to their parents that answered at home. Three different scales have produced based on the questions about knowledge, attitudes and behaviors for children and for their mothers and fathers and compared with *t*-test and one-way ANOVA.

**Results:** Attitudes towards dental care were found positive; 75.1% of children brushed their teeth regularly and 92.2% of the pupils used fluoridated toothpaste. During the previous 12 months 29.6% visited a dentist once or twice and 11.1% for more than three times. In total 69.7% thought that poor oral hygiene may induce dental caries. Other mentioned reasons for dental caries were 1) visiting the dentist not regularly (38.1%), 2) not proper diet (32.8%), 3) using too much antibiotics (27.6%) and heredity (16.4%). The knowledge, attitudes and behavior scales were found to be associated with education of family, age, oral health status, unhealthy lifestyles, socio-economic status and ethnic origins.

**Conclusion:** Community-oriented oral health programs which considering the socio-economical factors should be established.

## P12-172

### Caries prevalence of 3- to 12-year-olds in Moscow (Russia)

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**Introduction:** Aim of this study was to estimate prevalence and intensity of caries at pre-school and school children in Moscow.

**Patients and methods:** Within the scope of a dental program a clinical dental examination was performed in 641 children (3- to 12-year-olds) who were born and live in Moscow. Clinical examination was made by the criteria recommended by WHO (1997).

**Results:** A low caries prevalence of 10.1% was found for the primary dentition in the group of 3 year-olds. Caries prevalence increased with age and amounted to 47.5% in 9-year-old children. The caries prevalence increased in the permanent dentition from 10.3% (6-year-olds) up to 63.1% (12-year-olds). The dmft values were  $1.2 \pm 0.2$  in 4-year-olds and  $3.9 \pm 0.5$  9-year-olds. The DMFT amounted to  $0.6 \pm 0.1$ ,  $1.5 \pm 0.2$  and  $3.5 \pm 0.3$  in 6-, 8- and 12-year-old children.

**Conclusion:** High caries levels were found in pre-school and school children in Moscow.

## P12-173

### Caries patterns of under 3-year-old children in Taiwan

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**Introduction:** Prevention of Early Childhood Caries should begin in children before the age of three. The aim of this study was to analyze caries status and pattern in <3-year-old Taiwan children.

**Materials and methods:** 672 children under the age of three were selected by stratified cluster sampling in Taiwan. The research was done after permission of the Institutional Review Board. The protocol of examination was based upon the WHO criteria. Additionally, a structured questionnaire was answered by the parents/caregivers.

**Results:** 665 children were examined. The ECC prevalence was 40.7% in 2-year-olds. S-ECC was found in 28.4% of the children, the mean deft/defs index was 1.4/2.0. Caries status deteriorated from age 1 to 2. The mean number of carious teeth was higher in maxillary arch compared to that of the mandibular arch. The most susceptible carious teeth or surfaces were the anterior teeth and their smooth surfaces, followed by pit and fissure area. The risk factor of caries on smooth surfaces was correlated with the plaque accumulative status. The odds ratio of caries induction in children with mild or moderate plaque accumulation is 3.04 or 5.58 times compared to that of children with clean teeth.

**Conclusions:** The caries status of children under three years old is still poor in Taiwan. Prevention programs should be implemented.



## P12-174

### Oral health and molar-incisor-hypomineralisations (MIH) in Turkish children

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**Introduction:** The aim of this study was to determine the frequency of Molar-Incisor-Hypomineralisations (MIH) in patients as well as to describe the oral health status in a group of Turkish children living in the eastern region of the country.

**Patients and methods:** A total of 457 children (mean age:  $11.1 \pm 1.8$ ) living in the eastern part of Turkey were assessed in this study. Oral health examinations were carried out for all the children using the methods and criteria advocated by standardized criteria of the WHO by the same examiner after getting informed consent. Statistical analysis was done with NCSS 2007 & PASS 2008 Statistical Software package (Utah, USA) using chi-square, Kruskal-Wallis-Test and Mann-Whitney-U-Test with significant level  $P < 0.05$ .

**Results:** A total of 457 children (304 boys, 153 girls) were assessed in this study (mean age:  $11.1 \pm 1.8$ ). The mean dft/DMFT scores amounted to  $3.5 \pm 2.2/3.0 \pm 1.9$  in boys and to  $3.5 \pm 2.1/3.3 \pm 1.6$  in girls respectively ( $P = 0.931/P = 0.087$ ). Although there was no statistically significant difference between both genders; a significant difference was observed between age groups ( $P < 0.01$ ). MIH was observed in 87 children (19%) in the whole group (boys  $n = 54$ ; girls  $n = 33$ ). There was no statistically significant difference found between both genders. A statistically significant difference was observed between age groups and MIH presence ( $P < 0.01$ ). The most and least MIH affected regions of mouth were left upper side (85.1%) and the left lower side (66.7%) of the mouth.

**Conclusion:** MIH was observed in 19% of children and the frequency increases with age. A carefully managed recall program for those children who are affected is recommended.

## P12-175

### Evaluation of oral health and caries prevalence in 3-5-year-old children

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**Introduction:** The aim of this study was to determine the prevalence of early childhood caries and oral health of 3-5-year-old children attending state kindergartens in Ankara.

**Materials and methods:** 440 children (220 girls, 220 boys) aged between 3 and 5 years attending the state kindergartens in the 5 biggest municipalities in Ankara were examined for caries using the dmft index. Questionnaires were sent to the children's families in order to evaluate their sociodemographic condition, oral health habits, frequency of sweetened food consumption and modality of sweetened beverage consumption.

**Results:** The mean dmft scores in the 3-4-5 year-old groups were found to be 1.5, 2.2 and 2.5 respectively. The distribution of children with dmft  $> 0$  with respect to age was 47.8, 57.7 and 57.7 respectively. The dmft score distribution in 3-5-year-old groups with respect to municipalities are as follows: Cankaya 1.8; Kecioren 3.5; Mamak 1.6; Yenimahalle 2.4; Altindag 2.5. In Cankaya and Mamak municipalities where the mean education level of the mother was high, the dmft scores were significantly lower than in the municipalities where the mean education level of the mother is low.

**Conclusion:** Children attending the kindergartens in Kecioren and Altindag where the education level of the mother is lower and also children consuming sweets frequently and using feeding bottle had higher levels of caries. The high level of dmft scores in children points out the necessity of effective preventive dental health care programs.

## P12-176

### Prevalence of malocclusion in 6-8-year-old schoolchildren in Santiago: 2005-2006

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**Introduction:** Malocclusion reflects biological variability of dental occlusion. The prevalence in children is important to guide effective oral health policy and to plan effective interventions. The aim of this study was to determine the prevalence of malocclusion in school children from 6 to 8 years in Santiago, Chile in 2005.

**Patients and methods:** A representative sample of 1729 school children from 6 to 8 years (845 boys and 884 girls), stratified by socioeconomic level and without severe systemic diseases, was examined. After giving informed consent signed by their parents, the children took part in an extra and intraoral exam sitting in a chair in orthostatic position. The exam methods and malocclusion diagnosis was conducted using the criteria of WHO.

**Results:** At 6 years, 49.0% of the children presented mild to moderate malocclusion. At 7 years, 70.1% had some type of malocclusion, while the 8 years up to a 75.8%. Statistically significant differences were observed at 6 and 8 years in relation to socioeconomic level, showing a higher proportion of malocclusions in the high socioeconomic level. There were no statistically significant differences in relation to gender.

**Conclusion:** There is a trend to increased malocclusion in children of older ages, which coincides with the establishment of the mixed dentition. The highest prevalence of malocclusions was found for high socioeconomic status. Not based on facts in results, not examined.

## P12-177

### Decline in acute necrotizing ulcerative gingivitis in Ile-Ife, Nigeria

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**Introduction:** Acute necrotizing ulcerative gingivitis (ANUG) contributed to a significant loss of teeth in Nigerian children in the last two decades. The aim of this study was to find out the current trend of this disease.

**Patients and methods:** This study analyzed 23 cases of (ANUG) among children who sought treatment at the Dental Hospital, Obafemi Awolowo University, Ile-Ife, Nigeria in a 2-year period (January 2006-December 2007) after seeking approval from the ethical committee of the institution. The data of the present study was compared with a similar study in the same hospital a decade ago (1996-1997).

**Results:** The peak incidence of (ANUG) was among 3-5-year-old children and 73.9% of the cases were between 2-7 years old. Positive history of recent febrile illness was reported in 19 cases (82.6%). The result indicated that patients presenting with (ANUG)

decreased significantly when compared with the precedent study in which 160 patients had to be treated. This observation might indicate that (ANUG) is on the decline in Ile-Ife. Possible pre-disposing factors in (ANUG) such as malnutrition, infectious childhood diseases and several factors which might be attributed to the decline such as changes in dietary pattern, brushing technique, immune compromise, an increasing dental awareness and promotion of dental health care are discussed.

**Conclusion:** It is suggested that children at risk should be advised to maintain good oral hygiene, adequate nutrition and good health care. A population based study is suggested to ascertain the observed decline in (ANUG) in these semi-urban Nigerian children.

## P12-178

### Caries and sealant prevalence on occlusal surfaces in permanent molars in Greek adolescents

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**Introduction:** The aim of this study was to evaluate prevalence of caries of first and second permanent molars of Greek adolescents, ages 12 and 15, and in connection with sealant utilization to determine the appropriateness of a National sealant program.

**Patients and methods:** A stratified cluster sample was selected according to WHO guidelines, including 1.224 12- and 1.257 15-year-old Greek adolescents living in urban and rural areas in 11 districts within the country. Five calibrated examiners carried out clinical examinations, recording caries experience at the dentine threshold (BASCD criteria) and presence or absence of sealants along with Socio-demographic indicators associated with oral health. Chi-square, Student's *t*-test or ANOVA were utilized for assessing data.

**Results:** 62.9% of the 12 and 71.1% of the 15-year-old adolescents were affected by caries with a total DMFT score of 2.1 and 3.2 respectively. First and second molar DMFT index was 1.4 for the 12 and 2.5 for the 15 year olds, meaning 68.8% and 77.8% of the total caries experience of the adolescents is present on posterior teeth, counting for 69.1% and 76.5% of caries that can be prevented to a large extent by sealants. Concerning the use of sealants, only 7.8% of the adolescents presented at least one sealed molar.

**Conclusions:** The majority of dental caries of Greek adolescents examined was found on the occlusal surfaces of the posterior teeth, calling for a national preventive program with sealants which could eliminate caries to a large extent.

## P12-179

### Prevalence of caries on the first and second permanent molars of Greek adolescents and use of sealants

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**Introduction:** The aim of this study was to evaluate prevalence of caries of first and second permanent molars of Greek adolescents, ages 12 and 15, and in connection with sealant utilization to determine the appropriateness of a National sealant program.

**Patients and methods:** A stratified cluster sample was selected according to WHO guidelines, including 1224 12- and 1257 15-year-old Greek adolescents living in urban and rural areas in 11 districts within the country. Five calibrated examiners carried out clinical examinations, recording caries experience at the dentine threshold (BASCD criteria) and presence or absence of sealants

along with Socio-demographic indicators associated with oral health. Chi-square, Student's *t*-test or ANOVA were utilized for assessing data.

**Results:** 62.9% of the 12 and 71.1% of the 15-year-old adolescents were affected by caries with a total DMFT score of 2.05 and 3.19 respectively. First and second molar DMFT index was 1.41 for the 12 and 2.48 for the 15 year olds, meaning 68.8 % and 77.8% of the total caries experience of the adolescents is present on posterior teeth, counting for 69.1% and 76.5% of caries that can be prevented to a large extent by sealants. Concerning the use of sealants, only 7.8% of the adolescents presented at least one sealed molar.

**Conclusions:** The majority of dental caries of Greek adolescents examined was found on the occlusal surfaces of the posterior teeth, calling for a national preventive program with sealants which could eliminate caries to a large extent. This study was supported by a Colgate-Palmolive grant.

## P12-180

### Evidence-based medicine in paediatric dentistry

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**Introduction:** The development of paediatric dentistry as an independent branch of dentistry differed enormously throughout the world. Even today the postgraduate studies vary with regard to their requests. Paediatric dentistry in Germany was very popular before World War I, but afterwards it has taken nearly 80 years to regain a similar importance. Evidence-based medicine has become an indispensable topic over the last decade world-wide. It has been of interest to investigate how evidence-based medicine has been implemented in German, European and international paediatric dentistry.

**Materials and methods:** The well-known databases PubMed and The Cochrane Library were searched for the following terms: (paediatric dentistry) or dentistry & children. Further specifications in searching were carried out additionally. For these two databases the results were classified into number of randomized-controlled trials, clinical trials, meta-analyses, reviews and case-reports. The German database MEDPILOT.DE was searched for the term Kinderzahnheilkunde (engl.: paediatric dentistry) to see how many articles are published in German only. The level of evidence was also taken into account.

Guidelines were discussed separately, especially their process of origin.

**Results and conclusion:** In contrast to other dental subjects the number of high-level-studies in paediatric dentistry is remarkable: For example, compared to periodontics/periodontology the number of reviews is very similar. When the search was carried out, the number of reviews in paediatric dentistry was 7%, in periodontology 9%, respectively. The impression of missing evidence may be caused rather by the consequence of general difficulties to conduct studies on or with children.

## P12-181

### Comparison of a basic and risk-specific school-based preventive programme for caries-risk students

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**Introduction:** An annual risk-specific caries preventive programme (RPP) based on health promotion and application of fluoride

## Poster Sessions

varnish has been carried out in four elementary schools in the German Ennepe-Ruhr-District since 2001. Aim of the present study was to assess the effectiveness of this additional programme in comparison to the stand alone basic school-based preventive programme (BPP) after 3 years.

**Materials and methods:** The dental health status of 10-year-old students ( $n = 127$ ) who were involved in the BPP/RPP and 106 same age students who were involved exclusively in the BPP was examined. Both groups were comparable with respect to caries risk and caries experience. Caries was scored on cavitation level (WHO, 1997); no radiographs were taken. Parents of all participating students had given written informed consent. Pearson's chi-square test and Mann-Whitney's  $U$ -test were used to determine significant differences in caries prevalence and caries experience between both groups.

**Results:** Neither the caries prevalence (BPP: 47%/21% primary/permanent dentition *versus* RPP: 53%/17% primary/permanent dentition), nor the caries experience revealed a significant difference between both risk groups (BPP: 1.6 dmft/0.4 DMFT *versus* RPP: 1.6 dmft/0.3 DMFT).

**Conclusion:** The additional RPP seems to be of no benefit for dental health in caries-risk students compared to the stand alone BPP. This may be due to its low frequency of only one application per year which is not in line with evidence based recommendations for using fluoride varnish. Therefore, we suggest refraining from additional risk-specific health promotion activities in favour of enhancing the BPP by the application of fluoride varnish twice a year.



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