

457 Symposium Tooth Wear Diagnosis Measurement and Management W G YOUNG Organizer (Department of Dentistry The University of Queensland) Australian & New Zealand Division

Tooth wear becomes of greater clinical concern as tooth loss from caries and periodontal disease declines. Much new data on etiologies of attrition abrasion and erosion come from charside and epidemiologic observations and a review of recent research will be presented with anthropologic perspectives included. But new technologies of wear simulation and measurement are bringing new accuracy both to the laboratory and clinic. Wear machines which simulate tooth wear will be discussed. Scanning systems in which x y and z coordinates of tooth shape are captured, reconstituted and enhanced by computer graphics will be demonstrated. Techniques that record incidence site specificity and lesion progression will be discussed. Treatment plans center on control of etiology and enhancement of salivary protection. Restorative management is dictated by patients needs for aesthetics and function. Thus the retention of materials that adhere to dentine and the restoration of the occlusion by prosthetic appliances become key aims.

458 Relationship between milk feeding habits and nursing bottle syndrome SPANIEL D, ADDOG KADIE E* and YASSTIN Z (Faculty of Dentistry University of Malaya Kuala Lumpur Universiti Pertanian Malaysia Serdang)

The objectives of the study were (1) to identify the prevalence of nursing bottle syndrome among preschool children (2) to investigate the relationship between nursing bottle syndrome and dietary factors (3) to determine the relationship between parents demographic and socio economic characteristics and the prevalence of nursing bottle syndrome (4) to determine the relationship between nursing bottle syndrome and parents attitudes towards proper feeding and dental care. Seven preschools were purposively selected for the study. Data were gathered through clinical screening of children and by interviewing the parents using a self-administered questionnaire. A total of 153 out of 214 children examined were found to have nursing bottle syndrome. About 52.0% of the subjects were females and the others were males. The average age was 3.7 years. About 61.0% of the respondents were mothers and 39.0% were fathers. The average age of the respondents was 36.0 years. The relationship between nursing bottle syndrome and the independent variables of the study were tested using Pearson product moment correlation. Simple multiple regression analysis was also done to determine the predictor variables of nursing bottle syndrome and the total contribution of the independent variables to the dependent variable. The findings revealed that the prevalence of nursing bottle syndrome was high (52.0%). The test of relationship indicated that the prevalence of nursing bottle syndrome was positively related to duration of bottle feeding (r = 0.2163 P = 0.000), household income (r = 0.3163 P = 0.000), number of children in the family (r = 0.1287 P = 0.015) and number of sugar related food consumed (r = 0.1289 P = 0.016) but was negatively related to frequency of milk intake (r = 0.1415 P = 0.001) and parents attitudes (r = 0.1385 P = 0.010). The results of multiple regression analysis indicated that five variables namely level of parental education, duration of bottle feeding, household income, parents attitudes and frequency of taking milk were good predictors of nursing bottle syndrome and explained 33.3% of the variance in the incidence of nursing bottle syndrome. To minimize the prevalence of nursing bottle syndrome it is recommended that parents should be made aware of the problems of the disease.

459 Two-year result of a field trial on prevention of oral disease in Chinese kindergarten children ECM LO* E SCHWARZ, MCM WONG (Department of Periodontology and Public Health University of Hong Kong)

A longitudinal field demonstration trial was implemented in 1992 in Conghua Southern China in collaboration with a WHO Collaborative Centre located there. The main objective was to establish a daily toothbrushing exercise using fluoridated toothpaste and to have regular oral health education sessions in the kindergarten so as to improve the oral health status of the children. A kindergarten with about 700 children was selected as the test school and two kindergartens with a total of about 550 children acted as the control. Baseline and annual follow-up clinical examinations were conducted on all children who studied in grade 1 in 1991 (most were 3 years old). At the baseline, 168 and 121 children in the test and control groups respectively were examined. No significant differences in the baseline dmfs and visible plaque (VPI) indices were found. About 90% of the children in both groups were present in both the first and second annual examinations. The mean two-year dmfs increments were 2.2 and 3.4 for the test and control children respectively (p<0.05). The mean VPI scores for the test and control children at the second annual examination were 0.30 and 0.38 respectively (p<0.001). It is concluded that the prevention programme resulted in a 35% reduction in dmfs increment over two school years and an improvement in oral hygiene among the test children. The study children are still being followed up and the longer term effectiveness of the programme will be evaluated later. Supported by the University of Hong Kong CRCG grant and Colgate-Palmolive Ltd.

460 Oral Health Knowledge and Practices of Fourth Grade Korean Children, CHANG, D I, PAIK, H S, MOON, J B, KIM (Seoul National University, Korea), A M HOROWITZ* (NIH/NIDR Bethesda, Maryland U.S.A.)

The prevalence of dental caries among Korean children is very high. The purpose of this study was to evaluate the knowledge and practices related to oral health among a group of 4th grade students in Korea. This study consisted of a written questionnaire, a personal interview and an observation of selected oral health practices. A 12-item, pretested questionnaire was administered to 498 4th grade students. The questionnaire included knowledge items about toothbrushing, fluoride and the appropriate time to visit a dentist. Sixty-five % of the students indicated that the appropriate length of time to brush teeth was about 3 minutes, however, 72 % of the students brushed their teeth within 1 minute. There was a significant difference between knowledge about and reported intake of cariogenic foods (X²=16.5, p<0.01), but no difference between knowledge of and reported consumption of detergent foods. There was a significant difference between students' knowledge of appropriate frequency of dental visits and their reported visits (X²=251.7, p<0.01). There was a significant difference between knowledge and practices of selecting toothbrush head size (X²=38.0, p<0.01), firmness of bristles (X²=107.7, p<0.01), and shape of the toothbrush handle (X²=159.1, p<0.01), method of toothbrushing (X²=541.7, p<0.01). Thirty-nine % of the students had correct knowledge about the effect of fluoride, but less than 3 per cent of the students practiced fluoride mouth rinsing. The results of this study suggest strongly that the quality and quantity of oral health education of these Korean children is seriously deficient. To improve the oral health of Korean children, it is necessary to implement known preventive regimens. To implement and maintain preventive regimens, appropriate oral health education must be provided.

461 A Targeted Sealant Program Combined with Fluoride Mouthrinsing: 5-Year Results. S. KOBAYASHI*, S. SAKUMA, A. YOSHIHARA; K. HORII (Niigata Univ. School of Dent. Japan), O. Sakai (Fukuoka Dent. College Japan), A. M. HOROWITZ (NIDR/NIH, Bethesda, USA)

Japanese primary school children who had low caries prevalence due to the use of a fluoride mouthrinse regimen since nursery school (3-4 years of age) participated in a targeted dental sealant program. Only molar teeth diagnosed as C₁ (non-cavitated sticky fissure) based on semiannual dental examinations were sealed. During the period from grade one (6 years of age) to grade six (11 years of age), the mean number of molars that received sealant application per child was 0.87. The mean DMFT of all children from grade one through six was significantly decreased from 0.37 ± 0.88 (SD) (N=663) in 1989 to 0.22 ± 0.74 (N=540) in 1994 (p<0.001). The majority of children received dental care from two school dentists who adhered to conservative treatment guidelines established for this study. Some children received dental care at private dental clinic that used criteria for restorations that were different from those established for this study. Excluding these children (N=24), the subjects (N=516) who received their dental care at the school dental clinic had a mean DMFT of 0.12 ± 0.44 in 1994. Of the students who participated in the sealant program since its inception when they were in first grade, 67 % of their first molars were sound without sealants until grade six. The results of this study suggest that nearly total caries prevention can result when children use fluoride mouthrinse combined with a targeted sealant program in conjunction with a conservative policy of caries treatment.

462 Public Knowledge of the Prevention of Caries and Gum Diseases K ROBERTS-THOMSON* and A J SPENCER (Department of Dentistry, The University of Adelaide, Australia)

Dental caries and gum diseases are described frequently as preventable by appropriate dental health behaviours. While not sufficient alone, the conveying of information to the public remains a central theme to oral health promotion. The aims of this study were to assess knowledge about caries and gum diseases and explore its variation. In 1992, a mail survey conducted among South Australians aged 10+ yrs provided 838 questionnaires. Questions were asked on perceptions of the importance of self-care activities and professional care and the sources of information. Respondents ranked four myths for preventing caries as the most important: 97% rated regular toothbrushing, 87% rated regular visiting, 85% rated calcium in diet and 78% rated eating fibrous foods as definitely or probably important. In contrast, 72% rated using fluoride toothpaste, 65% rated avoiding sweets and 56% rated drinking water with fluoride as definitely or probably important. Higher percentages of females, older adults, and those with low educational attainment rated the 'myths' for preventing caries as important (Chi-sq, p<0.05). Respondents rated regular brushing (96%) and regular visiting (87%) as definitely or probably important for preventing gum diseases. However the myth of massaging the gums was rated as definitely or probably important by 67%. Higher percentages of females, both younger children and older adults and those with low educational attainment rated this myth for preventing gum disease as important (Chi-sq, p<0.05). Private dentists were the most frequent source of information (51%). The persistence of 'myths' and low rating of the importance of scientifically efficacious measures is a challenge for oral health promotion. Supported by a NHMRC Public Health Seeding Grant.

463 A randomized, controlled intervention trial to promote spit tobacco cessation among college athletes M M Walsh, J F Hilton, C Masouredia, L Gee, M Chesney, V Ernster (University of California, San Francisco)

We report one-year follow up results of a randomized, controlled intervention trial conducted in 365 male college athletes in California who were self-reported users of spit tobacco (ST) at baseline. Methods: Sixteen colleges were randomized to either the intervention or the control arm of the study, within strata defined by urban/rural college location and baseline prevalence of use. Both baseball and football teams participated in the trial at all colleges. The intervention included a professional dental exam with advice to quit ST use and strategies to cope with cravings, a self help guide, and non tobacco substitutes with instructions for optimal use. One month later intervention subjects were contacted by phone to encourage or reinforce quitting. Subjects at the control colleges received a self help guide only. Self reported quitting at one year was required to be confirmed via salivary cotinine assay. Results: At baseline there were 172 intervention subjects and 193 control subjects. At the 1 year follow up 93% of players were available for assessment of quit status. Quit rates were 41.3% and 20.8%, for the intervention and control groups, respectively, giving an odds ratio of 2.64. When dependence among subjects at the same college (the unit of randomization) was accounted for, the 95% confidence interval was (1.37 - 5.07) (p = .004). When stratified by college location, we found odds ratios of 1.9 at urban and 5.4 at rural colleges. Conclusions: A relatively simple-to-execute intervention is shown effective in promoting spit tobacco cessation in male college athletes, especially at rural colleges. This result was obtained after one year of follow up, suggesting that it may be sustained long term.

464 Adolescent Dental Habits in Victoria, Australia M J ROSIER, R W EVANS*, and M V MORGAN (Faculty of Medicine, Dentistry, and Health Sciences, The University of Melbourne, Victoria Australia)

As part of a larger study of to determine health behaviour among adolescents in Victoria, Australia, data were collected on dental habits. Information was gathered on toothbrushing frequency, dental visit frequency, and attendance for orthodontic treatment. A representative sample of 2524 adolescents were surveyed by questionnaire. Around 40% of males and 60% of females claimed to brush their teeth at least twice daily. Rates for visiting the dentist in the last year were fairly evenly divided across the three categories of visits (never, once, more than once). About one third of all respondents had received orthodontic care. These results were similar in both metropolitan and non-metropolitan subgroups. The variables tooth brushing, dental visits, and orthodontic treatment were strongly correlated. In a multiple classification analysis, sex was a stronger predictor of toothbrushing frequency than home background (a measure of social and economic factors) (beta = 0.20 and 0.10 respectively). Home background and toothbrushing frequency were the strongest predictors of dental visits, while home background alone was the strongest predictor for orthodontic care. It was concluded that location in non-metropolitan areas did not appear to be a disadvantage in terms of access to dental care.

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