

GC SEAADE Student GC Prevention Competition
Abstracts of Hong Kong Meeting, November 1, 2012

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Dental Health Gymnastic (D Gym) Kit as media for enhancement of public dental health.

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Introduction: Mother has an important role in a family, especially in family's habit that could affect health. Awareness on the importance of oral health and hygiene should therefore be given to them to help them keep their child's oral hygiene clean. **Aim:** This program was aimed to increase awareness about public dental health and education through an effective learning method to mothers. **Material and Method:** D'Gym uses learning format that will improve 3 aspects of learning which is of cognitive, psychomotor and affective aspects. To increase cognitive awareness is by giving knowledge about oral health and proper brushing teeth method, their psychomotor skills was enhanced by the use of the D'Gym kit which teaches about use of routine exercise movement. Effectiveness of the kit was evaluated by screening for dental debris accumulation. **Result:** The pre-post test score showed an increase in cognitive awareness (from 43.33% to 73.67%). Dental debris accumulation was also observed to decrease (from 3.52 in to 1.96). **Conclusion:** D'Gym is an effective media for enhancing dental public health intervention.

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Empowering Guardians: A Guided Tooth Brushing Program for Pre-School Children's Oral Health.

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Introduction: Guardians play an important role in their children's development and lifestyle, especially in the early stages of growth. They are also known to be the first mentors of their children since they spent more time with the children. It is therefore important why they should learn the prevention of dental disease through proper oral hygiene method so as to better equipped them to play their role in maintaining their children's oral health. **Aim:** This project aimed to empower the guardians of pre-school children by educating them on proper oral hygiene techniques for them to use in guiding their children. **Materials and Method:** Prior to educating the guardians, the pre- and post-assessment of guardians and their child's plaque score using their own technique of brushing was done. After which, the guardians participated in a program teaching them the proper toothbrushing technique then they were asked also to teach their children the technique as they guided their children in brushing their teeth. The project program data were gathered using disclosing solution, mouth mirrors and visual materials. Tooth brushes and tooth paste were also provided by the team to prevent bias. After the program, re-evaluation of plaque scores before and after brushing was done. **Results:** Findings showed oral hygiene of both of the guardians and children improved by 27.61% and 34.6 %, respectively after using their own technique. On the other hand, after empowering the guardians with a guided tooth brushing program, marked plaque score reduction was observed (56.19% for the guardians and 61.28% for the pre-school children).

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Culturally relevant multimedia materials for oral health education in an ethnic minority group. Chao Zhong and Team members. Faculty of Dentistry, University of Hong Kong.

Introduction: In developed countries, the oral health of ethnic minority groups is often worse than that of the general public. In order to improve their oral health, the use of cultural relevant oral health education (OHE) materials delivered through multimedia approach is desirable. **Aim:** This project aimed to 1) design culturally relevant OHE materials; 2) deliver them through multimedia approach and 3) evaluate their usefulness in the Pakistani community in Hong Kong. **Materials and Method:** To gain a deep understanding on Pakistanis' culture, lifestyles, oral health beliefs and the barriers for their access to dental service, a two-hour focus group discussion was conducted involving 9 Pakistani women. Two oral health pamphlets were designed. One focused on (a) causes, symptoms and signs, and preventive measures of tooth decay and periodontal disease, (b) common misconceptions on oral health, and (c) types of dental services available in Hong Kong. The other provided oral hygiene instructions including tooth brushing and flossing. A ten-minute OHE video was also produced. It included a brief overview of common oral diseases, choices and proper use of oral hygiene aids, and demonstration on tooth brushing, flossing and interdental brushing. A summary sheet was designed to show individual participant's oral hygiene status and distribution of dental plaque on different teeth and surfaces in a diagram. All materials were available in both English and Urdu (the main official language in Pakistan). **Results:** A total of 108 Pakistani adults, aged 18 years or above, were recruited through 4 NGOs. After completing the questionnaire on oral health knowledge, attitudes and practices (KAP), the OHE video was shown and the pamphlets were explained in small groups of participants. Participants' oral hygiene status was examined using visible plaque index (VPI) and gingival bleeding index (GBI). Afterwards, customized oral hygiene instruction was given using the summary sheet. After 4 weeks, the participants were invited to attend the review visit and 53 (49%) returned. **Conclusion:** Significant improvement was observed in the participants' oral health knowledge, sweet intake and oral hygiene status.

The Effectiveness of Horizontal Scrub and Modified Bass Tooth brushing Instruction in Reducing Oral Debris Among 4th to 6th Graders. Neeranuch Chuenchupol and Team.. Faculty of Dentistry, Mahidol University, Thailand

Introduction: Generally, the horizontal scrub toothbrushing method is recommended for children with primary teeth, while the modified bass technique is recommended for those with permanent teeth. Currently, tooth brushing instruction among 9-12 year-olds with mix dentition are still controversial and less explored. **Aim:** The study objectives were to compare the effectiveness of horizontal scrub(HS) and modified Bass(MB) toothbrushing instructions in reducing oral debris among 4th-6th graders, and to compare the effectiveness of these two methods in reducing debris among different age groups and tooth positions. **Materials and Methods:** A total of 126 4th-6th graders from Taewaratkulchorn and Samananumborihan schools were given either HS(70 students) or MB(56 students) toothbrushing methods. All children were assessed for oral hygiene using the Simplified Debris Index (DI-S) at baseline, 2 and 4 weeks after brushing instruction. The DI-S mean scores were compared using repeated measure ANOVA. The reductions of DI-S scores from baseline to 4 weeks after brushing instructions in different age groups and tooth positions were analyzed by t-test. **Results:** At 2 and 4 weeks after toothbrushing instruction, the reduction of means DI-S score was significantly greater in MB group compared to HS group ($p < .001$) When comparing between age groups, the reduction of DI-S scores between two methods were not significantly different in children 9-10 years old ($p = 0.447$). Among 11 years and older, students in MB group had a significantly greater reduction in DI-S score than HS group ($p = 0.003$). **Conclusion:** Both methods were not effective in reducing debris among 9-10 years old. However, MB method was more effective than HS methods in children 11 years and older. MB group were also more effective in reducing debris on posterior teeth, but neither groups were effective in reducing debris at anterior teeth.

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Developing a healthy policy for preschool children. Siras Sungkapreecha, Faculty of Dentistry, Naresuan University, Thailand.

Aim: the aim of the project was to develop a healthy policy for health preschool children. **Method and Materials:** This project was launched in a child developmental centre where 50 preschool children attended. An action process based on the Ottawa Charter of oral health promotion was used. The project used varieties of methods including interviewing, observation, questionnaire, oral health examination and, advocating by sharing the data findings with the care givers, parents and sub-district organization. Focus group discussion with Participatory Rural Appraisal was implemented. **Results:** Community assessment and oral examination showed 80% of children had developed dental caries. The community agreed to initiate innovations which included (a) daily toothbrushing record (Smiley Kid Book), (b) parents' check up and (c) development of community policies. Six policies were developed namely; (1) always rinse the mouth after meal, (2) children should brush their teeth with parents at home, (3) children should brush their teeth after lunch at child developmental centre, (4) stop drinking milk from bottle, (5) reduce snack and candy consumption, (6) change eating habit. **Conclusion:** partnership between community stakeholders is a powerful key to success in developing healthy policies.

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Fluoride content in milk formula. Chan Xiu Ling Grace and Team Members. Faculty of Dentistry, National University of Singapore

Introduction: Infant milk formulas are often used as substitutes for breast milk. There is a growing concern over fluoride content in reconstituted milk due to the presence of fluoride in various water sources. **Aim:** This study determined the fluoride concentration in various milk formulations when mixed with various water types. **Materials and Method:** Five types of water [de-ionized distilled, tap, bottled drinking (Ice Mountain), bottled mineral (Evian) and bottled reclaimed (NEWater) water] and three types of powdered infant milk formulas [cow (Enfalac A+), goat (Karihome) and soy milk (Enfalac A+ ProSobee)] were used in this study. Each infant formula milk type measuring 4.5g was added to 30ml of each water type and homogenized on a vortex machine. 2ml of Total Ionic Strength Adjustment Buffer (TISAB) II was then added to each 2ml sample of the reconstituted solutions. The free fluoride level was measured using an ion-selective electrode. The data were analyzed using ANOVA and a post-hoc Scheffe test ($p < 0.05$). **Results:** Mean free fluoride content of the different water types ranged from 0.004 ± 0.005 ppm (de-ionized distilled water) to 1.428 ± 0.013 ppm (drinking water). Singapore institutes a water fluoridation programme covering 100% of the population and had a mean free fluoride of 0.552 ± 0.020 ppm. The free fluoride content was both milk formula and water type dependent. With the exception of soy formula, reconstitution with de-ionized distilled water generally resulted in the lowest fluoride content. Goat milk had the highest free fluoride level regardless of the water type used with the highest fluoride content of all samples when mixed with bottled drinking water (1.337 ± 0.029 ppm). The use of soy formula decreased the level of free fluoride in each water type.

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Decreasing ECC risk factors by oral health promotion intervention in the community

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Aim: To evaluate the effectiveness of oral health promotion intervention using oral health evaluation card called KMGS to increase oral health children age 24-60 month in Posyandu. **Material and Method:** The study design was cross sectional with purposive sampling. Respondents comprised of 54 pairs of mother and child aged 24-60 months old. Clinical examination was done at first month of intervention as baseline and re-examined at the second and third month by 2 dentists and 10 dental students who had undergone calibration exercise. Respondents were divided into 2 groups; control group comprising of 23 mother-child pairs and 32 pairs in the intervention group. Oral health promotion activity in the community using the KMGS card was conducted by a caregiver to the mother who visited the Posyandu. The KMGS was based on cognitive behavioural principles and tailored for each participant. The effect of the programmes on oral hygiene (plaque score, and maturity of plaque score) was evaluated in the second of month and the third of months after oral health promotion activity had been carried out. Statistical analysis involved comparison of mean values, Anova test and Pearson correlation.

Result. Changes of plaque maturity was observed to increase significantly ($p < 0.05$), and oral health behavior score of mothers also increased significantly after 3 months intervention. **Conclusion.** The KMGS card was efficacious in improving long-term adherence to oral hygiene, especially to decrease ECC risk factor such as dental plaque.

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‘Bright Smiles for the Future’ An Oral Health Promotion for pre-school children in Malaysia. Marisa Kiong and Team Members, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia

Introduction: This Community Field Project is a multisectoral collaboration project involving the kindergarten children, teachers, parents and 14 fourth year undergraduate dental students together with the Department of Community Dentistry, University of Malaya. Using the concept of adopted kindergarten and smart partnership, various activities were conducted to improve the oral health of the children. **Aim:** The aim of this project was to improve oral health awareness and practices among children of Murni Kindergarten aged 4-6 years old. **Materials and Method:** Demonstration of correct tooth-brushing technique and disclosing of plaque for the children were done before conducting a supervised tooth-brushing drill. Various games (‘Good food versus bad food’, ‘Snake and ladder’), role-play, ‘Upin-Ipin’ cartoon video presentation, singing of theme song ‘Brushing Teeth’, dental craft (‘Whiten My Teeth’) and storytelling were conducted. OHE was delivered with a Q&A session to parents and teachers on the project launching day. Each activity was evaluated to ensure that its intended objective was achieved. These included repeated plaque scoring, observation of tooth-brushing technique, games and quizzes. **Results:** Overall, short-term evaluation showed an improvement in the children’s oral hygiene status, awareness and knowledge. The project was successful in gaining support and active participation of all the relevant parties involved. **Conclusion:** In conclusion, all the intended objectives were achieved through this programme, rendering the project a success

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Impacts of Oral Condition, Utilization of Oral Healthcare Services and Knowledge on Effects of Smoking on Oral Health in Mukim Berangan, Kota Bharu, Kelantan: Intervention for Prevention. Loh Leh Ying and Team Members. Faculty of Dentistry, Universiti Sains Malaysia, Malaysia

Introduction: Community and Family Case Study Program at the Faculty of Dentistry is designed to expose undergraduate students to health problems in a community, aimed to acquire appropriate knowledge, skills and attitude to plan and implement interventive strategies to problems identified. Spaced throughout 1 year period (May 2010 - May 2011), four community residencies were conducted to perform community-based research in Mukim Berangan, Kelantan. **Aim:** This study looks at the impact of oral health condition, utilization of oral healthcare services and knowledge of smoking among adults in Mukim Berangan. **Materials and Methods:** A four visit program was conducted, each with a set of planned activities carried out. In the first visit, health and social profiling of community using standard survey forms was done among 383 households of randomly selected 100 houses. A cross sectional study using questionnaire was then performed among 165 randomly selected adults aged 15 years and above during the second visit in the same community. A joint oral health promotion activities with the Kelantan Oral health Division and Health Department was carried out in the third visit. Evaluation on effectiveness of the program was done three months after by using the same questionnaires. **Results:** Findings showed significant improvement in total mean score of knowledge on smoking from 69 (SD15) to 84 (SD14) ($p < 0.001$). Percentage of utilization of oral healthcare services increased from 29.7% to 49.7%. Impact of oral functional limitations decreased to 10%. **Conclusion:** Post intervention results proved that the intervention strategies had successfully instilled oral health awareness among the residents and they had benefited from our program