

Oral Track 6- Nutrition and Food Safety

OT6-01

Should Nutrient Profile Models Promoting Healthy Diets Be 'Category-Specific' or 'Across-the-Board'?

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Background: There is little agreement whether nutrient profile models should treat all foods equally (across-the-board) or as separate food categories with different algorithms (category-specific). We explored the appropriateness of across-the-board and category-specific nutrient profile models as tools for promoting healthier diets.

Methods: Respondents to the UK National Diet and Nutrition Survey were split into four diet-groups based on a dietary quality index. Proportions of foods consumed by each diet-group within each of the food groups (defined according to the UK food guide of Balance of Good Health) were assessed. Average scores of the foods consumed by each diet-group within each of the food groups were also assessed using an across-the-board nutrient profile model.

Results: Compared to the 'least healthy' diet-group, diet of the 'healthiest' diet-group consisted of a significantly greater proportion of fruit and vegetables (12%versus6%), and bread, cereals and potatoes (34%versus26%), and significantly less fatty and sugary foods (16%versus30%). Compared to the 'least healthy' diet-group, the average food scores for both milk and dairy products (1.6versus5.2) and meat, fish and alternatives (4.0versus7.0) were substantially lower (i.e. healthier) in the 'healthiest' diet-group. For other food groups, the differential was much smaller.

Conclusion: 'Healthy diets' of UK adults are characterised by greater consumption of healthy food groups and healthier versions of dairy foods and meat, fish and alternatives. Nutrient profile models designed to promote this diet should be category-specific but with a limited number of categories focused on dairy foods and meat, fish and alternatives.

OT6-02

Differential Determinants of Chronic Malnutrition among Preschool Children: A Cross Sectional Study in Dhaka City

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A cross-sectional study was conducted in two-wards (Ward 62 and 45) of Dhaka City to see the prevalence of chronic malnutrition (stunting) and to identify the factors affecting height for age (HAZ) among pre-school children. It was a two stage random sampling where the

survey was done from Mid-February to Mid-March of 2008 on 380 samples. The analysis revealed that the overall prevalence of stunting in Dhaka city was 39.5% in which children were severely stunted 25% and moderately stunted was 14% ($P<.001$). Bivariate analysis revealed that socio-economic and demographic factors are most significantly associated with stunting. While parents are post graduate, mothers have job & high knowledge of nutrition, mother's height is above 148 cm, familial education is high; child's birth weight is above normal but current weight is above 15kg, then the children are well nourished. From multivariate linear regression model mother's height, mother's knowledge of nutrition, Birth weight and current weight of the children were found most significant factors negatively and independently affecting the stunting of the children.

OT6-03

Assessing Perceptions of A Healthy Diet

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Good nutrition has been linked to reductions in heart disease, cancer, diabetes and all cause mortality. A healthy diet is a complex set of nutritional intake that includes adequate fruit and vegetable consumption, adequate fiber, moderate fat consumption and limited sweets, processed foods, saturated fat and sweetened beverages. The media and popular cultural has portrayed numerous versions of what constitutes a healthy diet. In this study, we asked respondents how often they ate a healthy diet and assessed the relationship with fruit and vegetable consumption, fiber and fat intake, sweetened beverage consumption and eating at fast food restaurants. A random digit dial telephone survey of Hawai'i residents was completed by 3,607 respondents in 2007. Of these, 24.8% reported always eating a health diet, 40.5% often eating a healthy diet, 28.2% sometimes eating a healthy diet, and 6.3% never or rarely eating a healthy diet. Significant linear trends were seen for fat and fiber consumption, eating breakfast, soda consumption and fast food consumption (all $p<.05$ for linear trend) with the frequency of eating a healthy diet. However, the "always" group was significantly higher than all other groups for both daily servings of fruits ($M=3.6$ servings vs. 2.9) and vegetables ($M=3.8$ vs. 3.1). No trend was seen for fruits and vegetables between the never, rarely, sometimes and often groups. A one-item diet screener is linearly related to a variety of nutrition indicators. However, only people who report always eating a healthy diet have high levels of fruit and vegetable consumption.

OT6-04
Using Social Marketing Principals to Increase Fruit and Vegetable Consumption in A Multiethnic Population

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Poor nutrition is a leading cause of preventable morbidity and mortality in the US. Mass media campaigns have tremendous promise for reaching large segments of the population to influence nutrition. However, there is still insufficient evidence in the literature to recommend mass marketing campaigns for nutrition. The majority of Hawaii's multiethnic community is comprised of five major ethnic groups: Native Hawaiians, Caucasians, Japanese, Chinese and Filipino. To be effective, social marketing approaches need to be culturally relevant to these and other ethnic groups. This study describes a social marketing campaign designed to increase fruit and vegetable consumption in adults ages 35-55 living in Hawaii. Based on the Theory of Reasoned Action, the campaign used a marketing mix of television, radio, web, newspaper column, supermarket advertising and events and earned media to influence the target population. Random digit dial telephone surveys of 900 adults before and after the campaign were used to measure effectiveness. Results showed a significant ($p < .05$) increase in fruit consumption (0.15 servings per day), but no change in vegetable consumption. Implications of social marketing include the timing and placement of messages and the need for repeated messaging to influence nutrition.

OT6-05
Sea Fish Consuming, Degree Oh Mercury in Hair, and Fisherman Healthy at Surabaya Kenjeran Beach
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The condition of Surabaya Kenjeran Beach effected by Hg pollution, had observed by previous researcher, they suggested that water, sediment, and fishes from Kenjeran Beach were already dirtied by Hg at dangerous level. Fisherman communities is one of the group which have a risk getting effect of methyl Hg, because they usually eat fish from sea that dirtied by Hg. This research took place at Kenjeran district, Bulak sub district, Surabaya. The number of samples for group who affected by Hg are 70 person and controlled group are 45 person. Respondent's hair (research subject) was taken and then observed by Atomic Absorption Spectrophotometer (AAS) No Flame. As result, at the fisherman group who consumed sea fish at average 99.11 g/day, they have degree of Hg in their hair is 256.086 ppb. There are no data of consume sea fish at that time for the controlled group, average degree

of Hg in their hair is 0.511 ppb. Healthy disorder sigh (subjective symptoms) which is suspicious as a result of Hg poisoning at this research are kidney, lever disorder, headache, painful, tremor, bleeding gums, and visual disorder. Conclusion is, statistically there is significantly relations between consumed sea fish and degree of Hg in hair, and average degree of Hg in the effected group's hair is higher than the controlled group, but it's not over limit value that recommended by National Research Council (NRC) is 12 ppm, also there is significantly relations between degree of Hg in hair and healthy disorder sigh (subjective symptoms).

Oral Track 7- Nutrition and Food Safety
OT7-01
Antioxidant Supplementation Reduces Sick Building Syndrome Frequencies in Employees in Jakarta, Indonesia (A Community Trial)

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Environmental pollution has become a serious problem in many big cities. Indoor air pollutants are produced by ambient pollutants, cigarette smoke, use of printers, photocopy machines, production machines, and employees. Air pollution and cigarette smoke generates health damaging free radicals and have a negative impact on human health. Nutritional antioxidants have can neutralize free radicals and therefore have the potential to ameliorate the negative effects of pollution on health. This study investigates the effects of intervention with supplement containing antioxidants on the frequency of Sick Building Syndrome (SBS) in employees in Jakarta, Indonesia. The supplement used consisted of vitamins A, D, E, C, B6, B12, folate, selenium, zinc, iron and copper. The research was conducted in 350 employees (30-50 years) in 18 different companies in Jakarta. Eleven companies were picked randomly whose employees were given the supplement to be consumed daily for 3 months. Meanwhile, employees from 7 other companies not consuming the supplement served as the control group. The results showed that 50% of employees experienced SBS but major differences were seen between the supplement and the control groups. The antioxidant supplement was proven to significantly reduce the frequencies: 49% less headache, 45% less watery eyes, 52% less nasal congestion, 27% less respiratory infection and 41% less fatigue. Overall, the results showed that those employees who consumed the supplement experienced 65% less SBS frequencies. In conclusion, 3 month supplementation containing antioxidants resulted in a significant reduction of sick building syndrome frequencies in employees working at high buildings in Jakarta.