Welcome to the June edition of the APFNC Behavioural Nutrition Newsletter

This month’s edition contains news from Dr Huanmei Zhang on the Chinese Nutrition and Health Surveillance Program.


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In the media

Health concerns about global baby formula boom
By Australian National University
ScienceDaily – 2 June, 2016
https://www.sciencedaily.com/news/health_medicine/nutrition/

Reducing salt intake in the Pacific Islands
By The George Institute for Global Health
7 June, 2016
http://www.georgeinstitute.org/news-and-events

Infant milk formula does not reduce risk of eczema and allergies
A special type of baby formula does not reduce allergy risk – despite previous claims to the contrary
By Imperial College London
ScienceDaily – 9 March, 2016
https://www.sciencedaily.com/news/health_medicine/nutrition/

Other items

Academic Papers
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APFNC news

Chinese Nutrition and Health Surveillance Program (CNHS program)


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The Chinese Nutrition and Health Surveillance Program (CNHS program) among Chinese residents was approved in 2010, and is funded by the Central Government. The National Institute for Nutrition and Health (NINH), Chinese CDC, conducts the program every 3-4 years, covering all provinces, municipalities and autonomous regions. Meanwhile, since 1989, NINH has carried out a Cohort study (the Chinese Health and Nutrition Survey), involving over 15,000 people in 12 provinces in 2015.

Based on a stratified-clustered-random-sampling methodology, a newly completed CNHS program was conducted in 2010-2013 in over 150 surveillance sites, over large cities, middle-to-small cites, and non-impoverished and impoverished counties throughout the country. The study reached 150,000 people living in rural and urban areas, including infants, toddlers, schoolchildren, adults, and lactating mothers, investigating family background, dietary pattern, anthropometric parameters, nutritional, healthy status and tendency, as well as diet-related chronic diseases. The State Council of PRC released the results in 2015 Report on Nutritional and Non-communicable Chronic Diseases among Chinese Residents.

Dietary analysis from CHNS 2010-2013 showed that average daily energy intake of a Chinese person was 2172kcal, with intake of protein, fat and carbohydrate at 65g, 80g, 301g respectively, which was lower than
those in 2002. As compared to food consumption data in 2002, daily intake of grains and vegetables showed similar trends for fruits, soybeans and dairy products as being low, 40.7g, 10.9g and 24.7g respectively. Deficiency of Ca, Fe and vitamin A existed. In 2013, the breast-feeding rate was 20.8%. Among adults (age≥18yr) the overweight rate (24.0≤BMI<28.0) was 30.1%, and obesity rate (BMI≥28.0) 11.9%. Overweight and obesity rate among schoolchildren (6-17yrs) was 9.6% and 6.4%, respectively. Adult hypertension and diabetes rates were 25.2% and 9.7%, respectively. The tendency of overweight, obesity and diet-related chronic diseases during 2002-2012 among Chinese was on the rise.

The two surveys have provided rich data for relevant policy-makers to take pertinent measures and make action plans for Chinese health promotion, such as funding revision work and boosting public education of Chinese Dietary Guidelines 2016\(^2\).

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References:

APFNC member’s recent publications


The aim of this study was to examine the associations of food store choice with food consumption among urban slum women. A cross-sectional survey was carried out among 188 urban slum women (19-50 years old) in Jakarta, Indonesia. A semiquantitative food frequency questionnaire was used to assess food consumption. Associations between food consumption and food store choice were tested by linear regression. This study found that frequencies of buying food from small shops (warung), street food vendors, and modern food stores were significantly associated with consumption of snacks, mixed dishes, and fruit respectively. In addition, buying food from traditional markets and small cafes (warung makan) was not significantly associated with particular types of food consumption. As modern food stores are rarely utilized by these women, small shops (warung) and street food vendors are likely to be important channels to improve slum dwellers’ diet.


Milk consumption is popular in Malaysia especially among the younger ages. Nonetheless, there is a lack of quantitative data on milk consumption by children in Malaysia. A cross-sectional study was undertaken on a sample of 749 children aged 1-10 years in the metropolitan areas of Kuala Lumpur. Approximately similar proportions of children were selected from low, middle and high household income
categories. Socioeconomic background, dietary intake based on 24-hour recall and food records, were obtained for each child.

Prevalence of milk drinking was highest among aged 1-3 years (90.6%) followed by 86.1% aged 4-6 years, and 73.7% among ages 7-10 years. The youngest age group consumed averagely 3.5 (3.1 – 3.8) cups (200ml/cup) of milk daily, exceeding the recommendation of 2-3 cups a day by the Ministry of Health (MOH), Malaysia. There were no significant differences in the mean amounts of milk consumed among ages 1-3 years from low to high-income categories. Children aged 4-6 years consumed, on average, 2.2 (1.9 – 2.4) cups/day, which is within the MOH recommendation, while that for ages 7-10 years, at 1.07 (0.9–1.2) cups/day, is below the recommendation. Parents of young children should be advised on the nutritional importance of providing foods from a variety of sources, so that the children obtain the right balance and mix of nutrients for optimum growth.


Sleep is important for children as it directly impacts their mental and physical development. Sleep is not only influenced by the timing, but also by the macronutrient (carbohydrate and protein) content of meals. Glycaemic index (GI) and glycaemic load (GL) describe the quality of carbohydrates in a food and the burden of these foods on the body’s blood glucose response. Diets with a high GI/GL may increase the risk of developing obesity and type 2 diabetes mellitus in adulthood. The present study is piloted to evaluate the short-term impact of milk products with differing glycaemic properties on the sleep patterns of toddlers.


The ways in which children eat, their appetitive traits, are associated with their food intakes and weight status yet it is unclear whether they also relate to food preferences. A cross-sectional self-report survey administered in two Australian cities. Food preferences were grouped according to the Australian Guide to Healthy Eating and a summary measure of healthiness, the Healthy Preference Index, was constructed. Bi-variate and multiple linear analyses examined relationships between each of the CEBQ dimensions and between the CEBQ dimensions and children’s food preferences (P < 0.05).

In total, 371 parents of children aged 2–5 years (response rate 53.5%) participated. The models explained approximately 32% of the variance in children’s Healthy Preference Index scores and 42% of the variance in preferences for vegetables. CEBQ dimensions Fussiness, Enjoyment of Food and Food Responsiveness were significant predictors of several of the food preference measures in linear regression analyses. Fussiness predicted all of the measures of food preferences, explaining a large proportion of the variance in such measures (ranging from 23% to 59%). Enjoyment of Food predicted greater liking of Vegetables and Meats as well as a higher Variety Index score. Food Responsiveness was associated with greater preferences for non-core Extra Foods, and reduced preferences for Vegetables. None of the other CEBQ dimensions meaningfully associated with children’s food preferences. Of the eight CEBQ subscales, children’s Fussiness, Enjoyment of Food and Food Responsiveness predicted food preferences. Some, but not all, of the CEBQ subscales appear to be meaningful predictors of children’s food preferences.
The impact of a new McDonald’s restaurant on eating behaviours and perceptions of local residents: A natural experiment using repeated cross-sectional data.  

Neighbourhood food environments are posited as an important determinant of eating behaviours; however, causality is difficult to establish based on existing studies. Using a natural experiment study design (incorporating repeated cross-sectional data), we tested whether the development of a new McDonald’s restaurant increased the frequency of consumption of McDonald's products amongst local residents in the suburbs of Tecoma (site of a new McDonald’s restaurant development) and Monbulk (control site) in Victoria, Australia. Across both sites, the reported frequency of McDonald's consumption did not change during the follow-up surveys. In the context explored, the development of a new McDonald's restaurant has not resulted in an increased consumption of McDonald's products.

Economic evaluation of price discounts and skill-building strategies on purchase and consumption of healthy food and beverages: The SHELF randomized controlled trial.  

Pricing strategies are a promising approach for promoting healthier dietary choices. However, robust evidence of the cost-effectiveness of pricing manipulations on dietary behaviour is limited. We aimed to assess the cost-effectiveness of a 20% price reduction on fruits and vegetables and a combined skills-based behaviour change and price reduction intervention.

Cost-effectiveness analysis from a societal perspective was undertaken for the randomized controlled trial Supermarket Healthy Eating for Life (SHELF). Female shoppers in Melbourne, Australia were randomized to: (1) skill-building (n = 160); (2) price reductions (n = 161); (3) combined skill-building and price reduction (n = 161); or (4) control group (n = 161). The intervention was implemented for three months followed by a six month follow-up. Costs were measured in 2012 Australian dollars. Fruit and vegetable purchasing and consumption were measured in grams/week.

At three months, compared to control participants, price reduction participants increased vegetable purchases by 233 g/week (95% CI 4 to 462, p = 0.046) and fruit purchases by 364 g/week (95% CI 95 to 633, p = 0.008). Participants in the combined group purchased 280 g/week more fruits (95% CI 27 to 533, p = 0.03) than participants in the control group. Increases were not maintained six-month post intervention. No effect was noticed in the skill-building group. Compared to the control group, the price reduction intervention cost an additional A$2.3 per increased serving of vegetables purchased per week or an additional A$3 per increased serving of fruit purchased per week. The combined intervention cost an additional A$12 per increased serving of fruit purchased per week compared to the control group. A 20% discount on fruits and vegetables was effective in promoting overall fruit and vegetable purchases during the period the discount was active and may be cost-effective. The price discount program gave better value for money than the combined price reduction and skill-building intervention.
Recent scientific publications

**Maternal and infant nutrition – Stopping childhood stunting**

The following supplements were funded and made open access by UNICEF Regional Office for South Asia. More than a third of South Asia’s children aged 0–59 months are stunted, and 40% of the global burden of stunting exists in South Asia. Poor diets and persistent nutrition deprivation in the first year of life, combined with poor nutrition of women before and during pregnancy, and poor household sanitation, are important drivers of stunting. These supplements argue the importance of prioritising investment in the areas of improving child feeding, women’s nutrition, and household sanitation to prevent child stunting.


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**Child, teenage and family nutrition**


Health and nutritional information for many countries in the South-East Asian region is either lacking or no longer up to date. The present study aimed to calculate length/height percentile values for the South-East Asian Nutrition Survey (SEANUTS) populations aged 0.5–12 years, examine the appropriateness of pooling SEANUTS data for calculating common length/height percentile values for all SEANUTS countries and whether these values differ from the WHO growth references. Setting: Malaysia, Thailand, Vietnam and
Indonesia. Data from 14202 eligible children on length/height-for-age percentile values were collected. The LMS method was used for calculating smoothened percentile values. Standardized site effects (SSE) were used for identifying large or unacceptable differences (i.e. SSE >0.5) between the pooled SEANUTS sample (including all countries) and the remaining pooled SEANUTS samples (including three countries) after weighting sample sizes and excluding one single country each time, as well as with WHO growth references.

From pair-wise comparisons of percentile values between the pooled SEANUTS sample and the remaining pooled SEANUTS samples, the vast majority of differences were acceptable (i.e. SSE ≤0.5). In contrast, pair-wise comparisons of percentile values between the pooled SEANUTS sample and WHO revealed large differences.

Other

Sugar reduction: the evidence for action.

This document reviews the evidence across a broad range of areas and identifies those where action is most likely to be effective in reducing sugar intakes in the UK. It first considers the need for action - how much sugar we eat, where it comes from, the health issues associated with this, and the benefits of reducing sugar intakes. It then moves on the analysis of evidence to draw conclusions about what drives sugar consumption and advises on actions that could be implemented to change sugar intakes. These include the environment that influences our food choices, the food supply and changes that could be made to this, knowledge and training, and local action.

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