Background/Aims: Approximately 71% of households in India are consuming adequately iodised salt, leaving ~30% of the population at risk of iodine deficiency disorders (IDD). The aim of this study was to assess the levels of iodine in salt consumed in households from a disadvantaged rural area of South India.
Methods: Samples of salt were obtained from 27 households, selected by convenience sampling, in the Rishi Valley, Andhra Pradesh. Iodine content was determined using iodometric titration (sensitivity: 1 ppm; CV%: 2 to 3%).
Results: Approximately 86% of households were consuming non-iodised or inadequately iodised salt. Twenty three (82.1%) of the salt samples collected comprised salt in a crystalline form. The other samples comprised crushed salt. Less than 14.3 % of salt samples had iodine content greater than 30 ppm and all of these were from crystalized salt, while 43% of salt samples had iodine levels below 15 ppm, and 43% of samples contained no detectable iodine.
Conclusions: The majority of households surveyed were not using iodised salt, thereby providing evidence that many people in this rural population are not receiving adequately iodised salt. This may be explained by the greater cost of iodised salt. Collaborative efforts between the public and private sectors in India will help increase the availability of adequately iodised salt in disadvantaged populations.
Funding source(s): NHMRC.

Poster session 6: magical mystery tour of nutrition part 2

VALIDATION OF A 24 H RECALL QUESTIONNAIRE CULTURALLY MODIFIED FOR USE IN RURAL SOUTH INDIAN POPULATIONS

A.K. Subasinghe [1], A.G. Thrift [1,2], R.G. Evans [3], S. Arabshahi [1], O. Suresh [1,4], K. Kartik [4], K. Kalyanram [4], K.Z. Walker [5]. [1] *Department of Medicine, Monash University, Australia;* [2] *Florey Neuroscience Institutes, VIC, Australia;* [3] *Department of Physiology, Monash University, Australia;* [4] *Rishi Valley Rural Health Centre, Andhra Pradesh, India;* [5] *Department of Nutrition and Dietetics, Monash University, Australia*
E-mail: asvini.subasinghe@monash.edu (A.K. Subasinghe)

Background/Aims: The assessment of dietary intake in rural populations can be challenging because of cultural and environmental barriers. We aimed to validate a 24-hour (24h) recall questionnaire, culturally modified for use with South Indian populations, against weighed food records (WFRs).
Methods: Dietary data collected by 24h recall and WFR were compared in 45 adults aged 19-85 years who were sampled by convenience. WFRs were conducted in the household by one of the investigators and a trained field worker who weighed both the food consumed by each participant and any waste left over. The following day, field workers administered a 24h recall interview to the same participant. Bland Altman plots were used to assess the agreement between the two methods. Pearson correlations were used to assess the relationship between energy and nutrient intake calculated from each method. Least products regression was conducted to assess fixed and proportional bias.
Results: Robust associations were demonstrated between the two methods for energy ($r = 0.64, p < 0.001$), protein ($r = 0.66, p < 0.001$) and iron ($r = 0.68$, $p < 0.001$). No fixed or proportional bias was detected for fat, fibre, or calcium intake. There was reasonable agreement between the two methods with < 9 % of values lying outside the 1 SD limits for energy and nutrient intake.
Conclusions: Our culturally modified 24h recall provides a valid measure for the assessment of the intake of energy and nutrients in rural Indian populations.
Funding source(s): NHMRC.

BONE MINERAL DENSITY (BMD) IN RATS IN A MODEL OF METABOLIC SYNDROME (METS)

L.C. Ward [1], S.K. Panchal [2], M. Bhaswant [2], W.-Y. Wong [2], H. Poudyal [2], L. Brown [2]. [1] *School of Chemistry and Molecular Biosciences, The University of Queensland, QLD, Australia;* [2] *Institute of Agriculture and the Environment, University of Southern Queensland, QLD, Australia*
E-mail: l.ward@uq.edu.au (L.C. Ward)

Background/Aims: Studies assessing association between MetS and bone status have yielded inconsistent results; subjects with MetS had lower bone mineral density (BMD) but also lower fracture risk. We investigated BMD in an animal model of MetS and the effects of feeding a variety of different nutraceuticals..
Methods: Male Wistar rats were fed on either a corn starch (CS) or high-carbohydrate, high-fat (HCHF) diet that produces physiological characteristics of MetS for 8 weeks followed by a further 8 weeks during which half of each group of rats received a dietary supplement of a nutraceutical (including cardamom, chia, inulin, lignan, linseed oil, caffeine, seaweeds; $n = 8$-15 per group, $n = 194$ control diet). BMD of rats was determined at 16 weeks using dual energy x-ray absorptiometry (Norland XR36). Difference between groups was tested using two-way ANOVA; factors, diet and nutraceutical.
Results: Rats fed the HCHF diet were significantly heavier than those fed on the CS diet (474.5 ± 4.3 vs. 401.7 ± 4.3 g, $p < 0.0001$ respectively) but control HCHF rats had significantly lower ($p < 0.0001$) %BMD than CS-fed rats (0.035 ± 0.0002 vs. 0.041 ± 0.0002% respectively). Caffeine ($p < 0.001$), lignan ($p = 0.005$) and seaweeds ($p < 0.001$) significantly decreased BMD while feeding lignan ($p = 0.005$) and linseed oil ($p = 0.038$) increased BMD relative to controls. Inulin ($p < 0.001$) and chokeberry ($p = 0.0015$) significantly increased %BMD.
Conclusions: An HCHF (MetS) diet increased overall BMD due to a larger body mass but decreased BMD relative to body weight; partly offset by supplementation with chia seeds, chokeberry or inulin.
Funding source(s): N/A

DIVERSITY OF VIEWS, STRATEGIES AND TACTICS WITHIN AUSTRALIA'S FOOD AND NUTRITION POLICY LANDSCAPE: A PILOT STUDY

T. Stanley [1], K. Bryceson [1], M. Fitzgerald [1], G. Annison [2]. [1] *School of Agriculture and Food Sciences, The University of Queensland, Brisbane, QLD, Australia;* [2] *Australian Food and Grocery Council, Barton, ACT, Australia*
E-mail: t.stanley@uq.edu.au (T. Stanley)

Background/Aims: Good public health policy is critical to effectively addressing rising levels of obesity and non-communicable diseases. However, the contested policy landscape surrounding the nutritional risks of sugar, sodium and saturated fat reflects the diversity and strongly felt views among key players in nutrition policy development. The aim of this pilot study is to investigate the dichotomy and diversity of views in Australia's nutrition policy landscape, which may compromise good public health policy outcomes.
Methods: Six key players active in nutrition policy development were recruited from each interest group being examined: the government, food industry and public health sector. Each participant partook in a semi-structured interview. Responses were compared with a media analysis of press releases published in the last 3 years from the same organisations interviewed. Core themes and concepts were identified through a text analysis using Leximancer software.
Results: The Leximancer analysis indicates that key interest groups frame nutritional risks in markedly different ways. The food industry primarily drew on a frame of individual behaviour while the public health sector drew on structural and whole-of-population frames. Aspects of both the industry and public health frames were evident within the government responses.
Conclusions: The findings demonstrate the contested landscape surrounding nutritional risks, depicted by competing frames. A larger study is required to explore these findings, investigate the policy influencing activities undertaken to influence policy, and overall, how optimal, integrated nutrition policy solutions can be developed into the future.
Funding source(s): ARC and Australian Food and Grocery Council

ASSESSING HYDRATION STATUS DURING ULTRA-ENDURANCE EVENTS: ARE CERTAIN ASSESSMENT TECHNIQUES PROMOTING FLUID-OVERLOAD?

R.J.S. Costa [1]. [1] *Monash University, Department of Nutrition & Dietetics, Melbourne, Australia*
E-mail: ricardo.costa@monash.edu

Background/Aims: Novel data on hydration assessment techniques used during a 230 km multi-stage ultra-marathon (MSUM) conducted in hot conditions (32-40 °C) and a 24-hours continuous (122-208 km) ultra-