This occurred before and after fortification. We used the WHO criterion of median urinary iodine concentration (MUIC) >100 μg/L in spot urine samples to classify population groups as replete for iodine.
Results: There were 590 urine samples before and after fortification. MUIC improved for all groups: in men from 47, 78 and 93 μg/L to 98, 128 and 132 μg/L in remote Aboriginal, urban Aboriginal and urban non-Aboriginal participants respectively. Similarly, in women, median concentrations increased from 55, 58 and 63 μg/L to 89, 127 and 94 μg/L respectively. All groups were classified as deficient prior to fortification. Following fortification, urban men, both Aboriginal and non- Aboriginal, and urban Aboriginal women were classified as replete. However remote living Aboriginal people and urban non-Aboriginal women continued to be classified as deficient.
Conclusions: Although there was improvement across all the groups post fortification, some groups remain in the mild deficiency range. This is most concerning in women of childbearing age as iodine requirements increase in pregnancy and lactation.
Funding source(s): NHMRC

AWARENESS AND INFLUENCE OF HEALTH STAR RATINGS

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Background/Aims: The Health Star Ratings (HSR) scheme is a voluntary front-of-pack labelling system designed to encourage healthier choices. However, there is misalignment between HSR and Australian Dietary Guidelines (ADG) recommendations, with some discretionary choices scoring higher than five food group foods. The aim of this study was to investigate awareness of the HSR scheme amongst consumers and its influence on their purchasing decisions.
Methods: Two online quantitative surveys of Australian adults were conducted in March 2015 ($n = 1,635$) and April 2016 ($n = 1,621$). Weighting ensured gender and age representativeness. *T*-tests assessed significance.
Results: Awareness of HSR significantly increased between March 2015 and April 2016 (42% *vs.* 68%, $p < 0.05$) but use of HSR remained similar between years (46% *vs.* 49%). Of those who used the HSR in 2016: 61% of respondents reported that they had 'bought a similar product with more stars', 28% reported buying 'their preferred product irrespective of the stars' and 68% agreed that HSR are a 'trustworthy source of nutrition information'.
Conclusions: Awareness of HSR among consumers is wide and increasing and they are influencing the purchasing decisions of approximately one in three consumers. These Results highlight the need to re-align the scheme so that HSR more closely reinforce the messages of the ADG, particularly to enjoy a variety of nutritious five food group foods every day and to limit intake of discretionary choices.
Funding source(s): Dairy Australia

FIFTEEN YEAR TRENDS IN AFFORDABILITY OF THE ILLAWARRA HEALTHY FOOD BASKET SURVEY

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Background/Aims: The Illawarra Healthy Food Basket survey aims to monitor trends in affordability of a basket of 57 food items for a typical family of five. The survey has been conducted biannually since 2000 and this study aims to compare cost and affordability of the food basket over a 15-year period.
Methods: The reference family of five consists of a 39 years old male and female, a 65 years old female, children aged 5 years and 15 years. Five suburbs with differing socioeconomic status (SES) were used to record food prices at a large supermarket, a butcher and fruit markets. Cheapest products without discounts and excluding home brand items were recorded and average prices per basket were calculated for each suburb. Basket prices were compared against average weekly earnings and welfare payments, obtained for each survey time point.
Results: The cost of a healthy food basket in the Illawarra region ranged between 28 - 32% of average weekly earnings and 29 - 39% of welfare payments in the 15-year period between 2000 and 2015. There was no clear time trend, with 2001 and 2013 being the least affordable years of the survey. Food basket prices did not differ according to SES of the suburb being surveyed.
Conclusions: The affordability of a healthy food basket for a family of five has remained fairly consistent over time. Standardisation of healthy food basket surveys conducted around the country is needed to allow comparisons across states.
Funding source(s): N/A

MISSED OPPORTUNITY IN CHARITABLE FOOD SECTOR!

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Background/Aims: Nutrition education and improving food literacy skills has been identified as a sustainable strategy for improving individual food security. This study identifies the nutrition education needs of organisations, staff, volunteers and consumers in the charitable organisations in metropolitan Perth.
Methods: A cross-sectional study design, used an online questionnaire to survey 179 charitable organisations of whom 18% ($n = 32$) responded.
Results: 'Welfare/homeless services' ($n = 13$, 41%) were the primary service provider of food relief; emergency food parcels were the most common food service offered ($n = 13$, 41%) followed by cooking classes 31% ($n = 10$). The main recipients of food relief were Aboriginal and Torres Strait Islander People ($n = 25$, 78%); low income adults ($n = 25$, 78%); homeless adults ($n = 21$, 66%); asylum seekers, migrants or refugees ($n = 20$, 63%). Over 46% ($n = 11$-13) of paid staff and 67% ($n = 14$-18) of volunteers had not received training in food safety and handling, cooking, nutrition and food budgeting. Challenges to implementation of food literacy programs included limited cooking skills ($n = 9$, 28%) and poor nutrition knowledge ($n = 15$, 47%) of clients, insufficient funds to buy food ($n = 9$, 28%) and the lack of functional kitchen and resources available within the organisation ($n = 7$, 22%).
Conclusions: Improved food literacy of staff and volunteers is needed if charitable organisations are to effectively provide basic nutrition, budgeting and cooking skills to clients and address food security levels.
Funding source(s): N/A

INTERNATIONAL STUDENTS IN AUSTRALIA: ARE THEY FOOD INSECURE?

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Background/Aims: International students are vulnerable to food insecurity, thus impacting upon their ability to study and their international experience. This study investigates the food security levels of international students enrolled at an Australian university and the factors which influence the students' food security status.
Methods: A convenience sample of 85 international students were invited to complete a questionnaire and participate in a one-on-one interview. The questionnaire contained pre-validated measures of food security status and hunger (Household Food Security Module), a demographic variable component and the single item instrument from the National Nutrition Survey. Basic statistical and chi-squared analysis was conducted on the survey data and the in-depth interviews thematically analysed.
Results: Seventy-five surveys and 11 interviews were completed. Thirty percent of the cohort had experienced food insecurity with half of students who had experienced food insecurity experiencing hunger. Four themes emerged from the interviews: Adaptation and resilience; Quality and availability of traditional food; Student hardship and overcoming obstacles; and Food, health and wellbeing. Cooking and grocery shopping was a new skill for some. Although traditional foods were available, they were

found to be expensive resulting in a change of diet.

Conclusions: This study highlights the challenges for international students to be food secure. Food insecurity impedes wellbeing and as a result impacts academic success. Further research to understand the impact of food security on the international student experience is recommended, coupled with educational interventions and reinforcing university support services to redress food insecurity amongst international students.

PROSPECTIVE ASSOCIATIONS BETWEEN DIET QUALITY AND BMI IN DISADVANTAGED WOMEN: THE READI STUDY

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Background/Aims: Favourable dietary patterns appear to minimize long-term weight gain in the general population, however relationships between diet quality and weight change in disadvantaged groups have not been examined. This study examined associations between change in diet quality and change in body mass index (BMI) over 5 years amongst disadvantaged women.

Methods: Dietary intake and BMI were self-reported amongst 1242 women living in disadvantaged areas in Melbourne, Australia at three time points from 2007/08 - 2012/13. Diet quality was evaluated using the Australian Dietary Guideline Index (DGI). Associations between concurrent change in diet quality and change in BMI were assessed over the three time points using fixed effects and mixed models. Models adjusted for age, smoking, menopausal status, education, marital status, number of births, urban/rural location, and physical activity.

Results: Average BMI increased by 0.14 kg/m^2 per year increase in age in the fixed effects model, and by 0.13 kg/m^2 in the mixed model ($p < 0.0001$). BMI decreased by 0.014 kg/m^2 with each unit increase in DGI score in the fixed effects model, and by 0.012 kg/m^2 in the mixed model ($p < 0.0001$). There was a non-significant trend for the rate of change in BMI with age to be greater for those with a lower DGI score than for those with a higher score ($p = 0.07$).

Conclusions: Positive change in diet quality consistent with the recommendations in the Dietary Guidelines for Australians is associated with reduced BMI among disadvantaged women. Greater adherence to population-level dietary recommendations may assist disadvantaged women with long-term weight management.

Concurrent session 5: Dietary behaviours and assessment
WEIGHT MANAGEMENT PRACTICES ASSOCIATED WITH POLYCYSTIC OVARY SYNDROME AND THEIR RELATIONSHIPS WITH DIET AND PHYSICAL ACTIVITY

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Background/Aims: Polycystic ovary syndrome (PCOS) affects up to 18% of reproductive-aged women and is associated with obesity-related complications. Weight management is crucial in PCOS, however it is unknown what weight management strategies women with PCOS practice and their effect on diet and physical activity.

Methods: Weight management practices, diet and physical activity were assessed in 7,767 women ($n = 556$ PCOS, $n = 7,211$ non-PCOS) from the Australian Longitudinal Study on Women's Health. The association between weight management practices and PCOS status and weight management practices and diet and physical activity in PCOS were assessed through multiple regression analyses.

Results: Women with PCOS were more likely to be following both healthy [reducing meal/snack size (OR 1.50, 95% CI 1.14, 1.96, $p = 0.003$), reducing fat/sugar intake (OR 1.32, 95% CI 1.03, 1.69, $p = 0.027$) or low glycaemic index diet (OR 2.88, 95% CI 2.30, 3.59, $p < 0.001$)] and potentially unhealthy weight management practices [smoking, laxative, diet pills, fasting or diuretics (OR 1.45, 95% CI 1.07, 1.97, $p = 0.017$)] than women without PCOS. In PCOS, use of healthy weight management practices were associated with increased physical activity and improved diet and use of unhealthy weight management practices were associated with decreased diet quality.

Conclusions: Women with PCOS are more likely to follow both healthy and potentially unhealthy weight management practices than women without PCOS with impacts on diet and physical activity. In PCOS, we should focus on improving healthy weight practices across both diet quality and quantity and on addressing unhealthy weight practices and their potential adverse effect on diet.

PREDICTORS OF CHANGE IN DIETARY PATTERNS DETERMINED BY PRINCIPAL COMPONENT ANALYSIS IN AUSTRALIANS > 55 YEARS

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Background/Aims: Many epidemiological studies assess dietary patterns at one time, however little is known about change over time. This study examined the predictors of change in dietary patterns determined by Principal Component Analysis (PCA).

Methods: Participants living in Victoria ($n = 2,111$; 48% male) completed a questionnaire in 2010 and 2014, including a 111-item food frequency questionnaire and questions on socio-demographics and health-related behaviours. PCA determined dietary patterns using the 2010 dietary data and factor scores were calculated (sum of the key food factor loadings multiplied by daily serves). Factor loadings from 2010 were used to calculate factor scores in 2014. Multiple linear regression adjusted for covariates was used to identify predictors of change.

Results: Two dietary patterns were identified that were similar in men and women. Factor 1 was characterised by vegetables, fruit and fish and factor 2 was characterised by processed meats and refined grains. Having obtained a university degree compared to achieving a level of education no higher than year 10 predicted an increase in factor 1 in men ($\beta = 0.14$, 95% CI: 0.06, 0.22). Meeting physical activity recommendations and avoiding weight gain compared to not trying anything also predicted an increase in factor 1 in men ($\beta = 0.09$, 0.02, 0.16; $\beta = 0.08$: 0.01, 0.15, respectively) and smoking predicted an increase in factor 2 ($\beta = 0.12$: 0.04, 0.20, $p = 0.004$). There were no significant Results in women.

Conclusions: Higher education and positive health-related behaviours predicted a move to a healthier diet in men over 4 years.

DEVELOPMENT AND RELATIVE VALIDATION OF A FOOD FREQUENCY QUESTIONNAIRE TO MEASURE FLAVONOID INTAKE IN OLDER ADULTS

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Background/Aims: Retrospective analysis of flavonoid intake in older adults informed the development of a FFQ to measure flavonoid intake, and flavonoid subclasses. The validity and reproducibility of the FFQ was assessed against a 4-day FR.

Methods: Older adults aged 60+ years ($n = 42$) attended two interviews one month apart. Anthropometrics, blood pressure, demographic data and the 93-item self-administered FFQ were collected. A 4-day FR was randomly administered between the two interview dates and cross-referenced with the USDA flavonoid database to estimate flavonoid intake. Validity and reproducibility of the FFQ was assessed using the Wilcoxon signed-rank sum test, Spearman's correlation coefficient, Bland-Altman Plots, and Cohen's kappa.

Results: Mean flavonoid intake was determined (FFQ = 1,048.7 mg/day, FR