The Scientific Newsletter

N° 55 • April 2011

« WOMEN'S DIET IN AUSTRALIA »

Editorial

Women's diet in Australia

In this edition of the newsletter, Williams, Thornton, Mishra and their colleagues present findings of research examining eating behaviours of Australian women and the influences on them. This research is at the leading edge of work being conducted internationally. It shows that while women consume more fruit and vegetables and generally healthier diets than do men, many women do not eat enough fruit or vegetables to promote health and prevent disease. The research is important because it underscores the complexity of understanding patterns of eating and the influences on eating behaviours. Thornton's study, for example, shows that even though neighbourhood-level disadvantage is associated with low vegetable consumption, the poorer intakes are not a result of less supportive food environments – a finding which is at odds with what might have been expected. The research presented in this edition confirms the importance of ongoing research in this field. Without a better understanding of the community's eating patterns and of the key influences on them, it will be difficult to develop practical and effective programs to promote healthy eating and reduce the burden of diet-related diseases. However, based on the available evidence it will be important to improve access and availability of fruits and vegetables, and to provide people with skills to shop, store, cook and prepare these foods in ways that allow them to incorporate them into their family's diets.

David Crawford

Centre for Physical Activity and Nutrition Research,
Deakin University

Intro

The key to better government policy lies clearly with supportive evidence. Research studies such as those outlined in this newsletter are part of the key to helping drive a better understanding of the dietary patterns of women in Australia. The hope is, that with this wide ranging research will also come the data required to build better public policy and more supportive dietary environments.

The sad fact in Australia is that despite a plentiful food supply, few individuals meet the dietary recommendations for fruits and vegetables. This is despite a range of government interventions at a national, state and local level encouraging people to adopt healthier diets and lifestyles to avoid a range of preventable disease.

The range of studies represented here highlight the complex nature of diet and the way in which a range of factors impact on the way in which Australian women eat. This complexity underscores the need to support further research into eating behavior to determine practical strategies that can be implemented to build healthier communities – not just in Australia but throughout the world.

If we are serious about reducing the burden of preventable diet related disease, then we need to support this research and promote the knowledge as a means of building better policy decisions.

I commend the newsletter to you and urge you to consider its wider implications in encouraging women to eat more fruits and vegetables.

Chris Rowley

IFAVA Board Member - Australia

IFAVA Contact info

HEAD OFFICE
International Fruit And Vegetable Alliance
c/o Canadian Produce Marketing Association
162 Cleopatra
Ottawa, Canada, K2G 5X2

IFAVA

CHAIRMAN:
C. Rowley, Australia
E-mail : chairman@ifava.org

VICE CHAIRMAN:
P. Dudley, New Zealand
E-mail: vicechairman@ifava.org

Neighbourhood food environments and diet

— Lukar Thornton, David Crawford, Kylie Ball —

Centre for Physical Activity and Nutrition Research, School of Exercise and Nutrition Sciences, Australia

Within developed countries such as Australia, few individuals meet dietary recommendations for fruits and vegetables[1]. Although unhealthy dietary behaviours have often been reported at a national-level, the prevalence of unhealthy eating is often greatest in neighbourhoods with the highest levels of socioeconomic disadvantage. It is often suggested that living in disadvantaged areas may reduce an individual's opportunity to eat healthy through the neighbourhood food environment. In its simplest form, neighbourhood food environments operate through the '*community nutrition environment*' which relates to the type and location of food stores in an area, and through the '*consumer nutrition environment*' which relates to within-store factors such as product availability, quality, price, and opening hours[2]. Therefore, if a disadvantaged neighbourhood does not support healthy eating through the consumer nutrition environment (i.e. if fresh produce, high-fibre and low-fat options are not readily available within stores in these neighbourhoods) or community nutrition environment (if the stores that sell these products are not accessible) then healthy eating becomes a more difficult choice for residents living in these areas.

An investigation was recently undertaken into whether dietary behaviours within Melbourne, Australia are patterned by neighbourhood-disadvantage and if so, whether features within the neighbourhood community and consumer nutrition environments explain these associations[3]. This analysis was based on 1,399 women from 45 neighbourhoods of varying levels of socioeconomic disadvantage. Although it is recognised that women's diets are different to those of men, the focus on women is prudent because their diet and purchasing behaviour is often a strong predictor of household nutrition, especially children's diet. Survey data on fruit, vegetable, and fast-food consumption was linked with data on food store locations (supermarket, greengrocer and fast-food store density and proximity) and within-store factors (in-store data on price and availability for supermarkets and greengrocers) obtained through objective audits. After controlling for individual-level demographic and socioeconomic factors, neighbourhood-disadvantage was associated with less vegetable consumption and more fast-food consumption, but not with fruit consumption. It was hypothesised that any associations between neighbourhood-disadvantage and diet may be explained by variations in the neighbourhood nutrition environments. Although the study found poorer diets among women living in disadvantaged neighbourhoods in Melbourne, the differences were not attributable to less supportive nutrition environments in these neighbourhoods. This is partly explained by the fact that not all environmental features indicated unhealthy diets would be more likely in disadvantaged neighbourhoods. For example, fruits and vegetables prices were lower in neighbourhoods with higher levels of disadvantage.

The existing international evidence regarding the independent influence of neighbourhood factors on the procurement of food through food store accessibility remains contradictory. Further investigations as to why this is so are warranted. Previously, researchers have suggested that health behaviours, such as the purchasing and consumption of healthy foods, are linked to three key determinants:

1. motivation (an individual's belief and willingness);
2. ability (an individual's skills and confidence);
3. opportunity (whether the environment provides opportunity to engage in healthy behaviours)[4].

Thus, it remains common-sense that neighbourhood-level food access is likely to contribute to dietary behaviours. So why do studies continue to get null and inconsistent findings? One explanation is that to date, measures of access that do not accurately reflect a person's true contextual exposure to the full range of food vendors throughout the course of their daily lives. To better understand environmental determinants of food purchasing behaviours that could be modified to promote healthier eating, the next phase of research needs to move towards people-based measures of exposure whereby unique geographic exposure areas are used for each individual based on their daily travel behaviours.

To summarise, while features of the built environment are increasingly being recognised as potentially important determinants of health behaviours, evidence to date does not always overwhelmingly support this notion. A move towards individual-based measures of exposure is in line with previously calls for improved conceptual models related to environmental influences on health behaviours[5].

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Why do some socioeconomically disadvantaged women eat better than others?

— Lauren Williams, Kylie Ball and David Crawford —

Centre for Physical Activity and Nutrition Research (C-PAN)
School of Exercise and Nutrition Sciences
AUSTRALIA

Socioeconomic position and nutrition among women

While those of low socioeconomic position (SEP) tend to consume less favourable diets than those of high SEP, not all socioeconomically disadvantaged persons eat poorly[1-2]. In terms of efforts to promote better nutrition among low SEP groups, there may be valuable lessons to be learned by examining the characteristics of those low SEP individuals who, despite their disadvantaged circumstance, consume adequate intakes of fruit and vegetables. This phenomenon has previously been described as resilience[3], and it has been suggested as a potentially useful avenue for addressing socioeconomic inequalities in nutrition.

Understanding resilience among women is particularly important. Women tend to eat less than men, and consequently risk falling short of key food and nutrient requirements for good health. In addition, despite significant changes to the workforce in recent years, women typically still have the role as food gatekeepers within their families and this role has the potential to influence the diets of other family members.

Consistent with social ecological models of health behaviours[4], evidence suggests that variations in individual (e.g. nutrition knowledge, high self-efficacy for healthy eating, enjoyment for cooking), social (e.g., social support for consumption of fruit and vegetables from family and friends), subjective environmental factors (e.g., perceived cost of fruit and vegetables) and objective environmental factors (e.g., distance from residence to fruit and vegetable store) explain much of the SEP gradients in healthy eating among women[2, 5-9]. Rather than focussing on SEP gradients in healthy eating however, the aim of the study was to examine the individual, social and environmental determinants of resilience to fruit and vegetable consumption exclusively among low SEP women.

Factors that support resilience to poor fruit and vegetable consumption among low SEP women

Survey data from 355 low SEP women (mean age 49.5 years) revealed that 54% and 30% of women were high (resilient) fruit and vegetable consumers respectively. Women who were older, dieting to lose weight, with a high taste preference for fruit, who perceived that a wide range of healthy food options were locally available and perceived the cost of fruit to be lower were more likely to be high fruit consumers. Women who had a high BMI and perceived that a wide range of healthy food options were locally available were more likely to be high vegetable consumers.

A key prerequisite to improving the nutritional health of low SEP women is to better understand the mechanisms underlying healthy eating within this group. The results from this study show that strategies aimed at increasing fruit and vegetable consumption among low SEP women should focus on perceptions about the cost, availability and taste of fruit and vegetables. This could include education and awareness of cost breakdown of fruit and vegetables relative to other snacks and food ingredients, increased opportunities to taste a range of fruit (i.e. through store samples / taste testing) and provision of information detailing local availability of healthy food (i.e. a list of healthy options for eating out, locations where high quality fresh produce is locally available). Tailoring nutrition interventions to accommodate differences in age, weight control practices and weight status may also prove beneficial.

Conclusions

In conclusion, not all low SEP women consume inadequate intakes of fruit and vegetables. The results from this study highlight several potentially modifiable correlates of fruit and vegetable consumption among low SEP women that will be valuable in informing the development of nutrition promotion strategies. Further research that builds on the understanding of the determinants of fruit and vegetable consumption among low SEP women may be the most fruitful avenue for tackling socioeconomic inequalities in nutrition and health.

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What are the dietary patterns of young and mid-aged Australian women?

— Gita D Mishra —

School of Population Health, The University of Queensland, Herston, QLD 4006, Australia

Previous research has shown that Australian women are at risk of substantial weight gain in young adulthood and in mid-age, and that dietary factors are likely to play an important role in this weight gain. But little data are available on how dietary patterns vary according to age, key socio-demographic or behavioural factors and hence there is a need for evidence to support nutrition programs or policies.

The aims of this study were to assess the major dietary patterns of two age cohorts of Australian women, to determine the extent to which the dietary patterns differ between the cohorts and to assess whether they vary according to socio-demographic and behavioural characteristics and patterns of nutrient intake.

Study

The Australian Longitudinal Study on Women's Health (ALSWH) began in 1996 and is a national longitudinal study of factors affecting the health and well-being of women. Participants of ALSWH provided information on dietary intake by completing an 80-item food frequency questionnaire for women aged 50-55 years (n=10150; "mid-age") in 2001 and aged 25-30 years (n=7371; "young") in 2003.

Method

Factor analysis (FA) was used to identify dietary patterns and a pattern score was calculated from the consumption of the food items identified with each dietary pattern. Initially FA was conducted separately for young and mid-age women and since the dietary patterns identified were similar, data from the two cohorts were combined. A higher pattern score is associated with more frequent consumption of items that makes up that dietary pattern.

Results

Six dietary patterns were identified among the women. Patterns identified were labelled "cooked vegetables", "fruit", "Mediterranean-style", "processed meat, meat and takeaway", "reduced fat dairy" and "high fat and sugar foods".

Age effect

The mid-age cohort had higher scores on the cooked vegetables, fruit, Mediterranean-style, reduced fat dairy, and high fat and sugar foods patterns and lower scores on the processed meat, meat and takeaway pattern than the younger women.

Demographic factors

Living in rural and regional areas was associated with higher dietary pattern scores for the cooked vegetables, processed meat, meat and takeaway and high fat and sugar foods patterns and lower scores on the fruit and Mediterranean-style patterns. Not being married was associated with higher scores on the fruit pattern and lower scores on the cooked vegetables, and processed meat, meat and takeaway patterns.

Socio-economic factors

Higher education levels were associated with lower scores on the cooked vegetables and processed meat, meat and takeaway patterns, and higher scores on the fruit, Mediterranean-style, reduced fat dairy and high fat and sugar foods patterns. Being unemployed was associated with higher scores on the cooked vegetables and processed meat, meat and takeaway, and high fat and sugar foods patterns, and with lower scores on the Mediterranean-style pattern than managers or professionals.

Health behaviours

Higher physical activity levels were associated with higher scores on the cooked vegetables, fruit, Mediterranean-style, and reduced fat dairy patterns and lower scores on the processed meat, meat and takeaway pattern. Compared to healthy weight participants, overweight and obese participants had higher scores on the cooked vegetables, processed meat, meat and takeaway, and reduced fat dairy patterns and lower scores on the Mediterranean-style and high fat and sugar foods patterns. Smoking was associated with higher scores on the processed meat, meat and takeaway and lower scores on the reduced fat dairy, high fat and sugar foods and fruit (moderate to heavy smokers only) patterns. Participants classified as having risky alcohol drinking behaviours had higher scores on the Mediterranean-style and processed meat, meat and takeaway patterns and lower scores on the cooked vegetables, fruit, reduced fat dairy (high risk drinker only), and high fat and sugar food patterns than the low risk drinkers.

Conclusions

Healthier dietary patterns were associated with other favourable health related behaviours, higher socio-economic status, and living in urban areas. In spite of differences in the level of consumption of individual food items, the similarity in dietary patterns across two generations of women suggests that policies and interventions to improve diet should focus on social and economic factors and general health-related behaviours rather than different age groups.

SOURCE:

Mishra GD, McNaughton SA, Ball K, Brown WJ, Giles GG, Dobson AJ. (2010) Major dietary patterns of young and middle aged women: results from a prospective Australian cohort study. EJCN 64(10):1125-33.