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Plenary Session 6: Diet Quality and Food Supply

Diet quality – what does it mean and how can we measure it?

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Plenary Session 6: Diet Quality and Food Supply

Antibiotics resistant bacteria – a large proportion are related to what we eat

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Antibiotic resistance is rapidly rising in bacteria and these bacteria cause serious infections in people. In addition to medical antimicrobial usage, the use of antimicrobials in food animals contributes to the occurrence of resistance among some bacterial species isolated from infections in people. Many bacteria (e.g. Salmonella and Escherichia coli) spread to people via the food chain, and many are resistant to 'critically important antimicrobials' for humans. Internationally, the overuse and misuse of antibiotics in food animals, especially third generation cephalosporins and fluoroquinolones, result in many multi-resistant bacteria developing and spreading in food animals and then in the foods produced from these animals. These foods often have a global distribution.

There is a strong correlation between the prevalence of resistance to a number of antimicrobials in E.coli isolates from blood stream infections in humans and E. coli isolates from poultry and pigs, respectively. These findings exclude antimicrobial usage as the only explanatory variable for the observed resistances in E. coli from humans. They suggest that, in addition to the contribution of antimicrobial usage in people, a large proportion of resistant E. coli isolates causing blood stream infections in people are likely derived from food animal sources.

Unnecessary (i.e., growth promotion) or excessive use of antimicrobial agents that are considered critically important for humans, is frequent internationally. There is a large body of scientific evidence showing that usage of antimicrobial agents selects for the presence of resistant bacteria in food animals and this poses a risk to human health. There are several potential human health consequences of the emergence of antimicrobial resistance in foodborne bacteria, including increased number of infections, increased frequency of treatment failures, reductions in treatment choice after diagnosis, and increased infection severity.

Eighty percent of the world's antimicrobial use is in food animals, most of which is of poor efficacy and inappropriate. We need to stop the routine use of antibiotics for growth promotion and prophylaxis in food animals. We need to ban in food animals the use of "critically important" antibiotics for human health, such as 3rd generation cephalosporins and fluoroquinolones.

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Sustainable marine food production systems – the case of seaweed

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Plenary Session 6: Diet Quality and Food Supply

The effects of food policy measures on the salt levels of Australian foods

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Background
Excess levels of adverse nutrients in processed and fast foods are the target of a number of national programs designed to reduce diet-related ill health. Over the last few years the Australian government and other organisations in Australia have made salt reduction a priority.

Objective
To define the likely current and future impact of these intervention programs on salt levels in the food supply using objective, large-scale, epidemiological techniques.

Design
Large-scale surveys of food composition were done each year. The coverage of current intervention programs was assessed and estimates of their current and future effects were made.

Outcomes
Data have been collected for many thousands of Australian food items each year since 2008 using standardised protocols. The overall salt content of Australian foods is mostly unchanged. Currently active salt reduction initiatives cover only a small proportion of the food supply and do not appear to be reducing the salt levels of foods to which they are applied.

Conclusion
Despite considerable investment, food policy initiatives in Australia targeting salt have had little or no impact on the overall sodium levels of Australian foods. Furthermore, there is little reason to expect that any of the current approaches will have a substantive impact in the short- or medium-term. Mandated approaches that require sector-wide participation with clear sanction for failure to deliver will be required to bring about reductions in the salt levels of Australian foods.

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Plenary Session 7: Translating and Communicating Nutritional Science

Ethics and the translation of nutrition science: lessons from the pharmaceutical industry

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The anti-inflammatory drug, Vioxx, was launched in 1999 by the pharmaceutical company, Merck. It had blockbuster sales for 5 years. Merck withdrew if from the market in September 2004 due to 'new information'; namely, it greatly increased the risk of cardiovascular problems such as heart attacks. However, there was strong clinical evidence from the very beginning that Vioxx caused cardiovascular problems. This evidence was in the public domain but it had no effect on prescriber behaviour or Vioxx sales. Why was this? Was there unethical behaviour and if so, who was unethical?

While there are many possible answers to these questions, it will be argued that the Vioxx saga was the result of a failure to deal with uncertainty and that this was facilitated by a system failure.

This presentation will outline the ethical and legal solutions to the Vioxx failures and argue that these provide lessons that can be applied in nutrition research to deal with uncertainty. The debate on the appropriate intake of the omega-6 polyunsaturated fat, linoleic acid, provides an example for application of the lessons learnt in the pharmaceutical arena. It will be argued that use of ethical principles can be used to move the debate beyond the evergreen arguments about the appropriate level of linoleic acid intake.

Plenary Session 7: Translating and Communicating Nutritional Science

Research into action: identifying what works in practice

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Plenary Session 7: Translating and Communicating Nutritional Science

Changing dietary behaviour: a pipedream or reality?

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Introduction

We have tried counselling, surgery, public health programs, conventional media, digital media and nothing seems to get people to make significant changes to their eating. A favourite solution seems to be to throw money at the problem in the hope that some will listen.

One common argument to change eating behaviour is to tax junk food, although no-one has yet to define a junk food. We need to have agreement, because you cannot tax what you cannot define. Then we need to agree to the level of taxation and the use of the collected tax. At what level of taxation would we change consumption patterns? I suspect you will need to tax at 25-40% to change buying habits and the food companies will fight all the way to the High Court to stop that happening.

Campaigns

Over the years, government and health agencies have conducted public weight loss campaigns like the 2009 *Draw the Line* campaign and the 2012 *Live Lighter* campaign in WA. It is difficult to find published data on the success of such campaigns, and those that do suggest a small amount of self-reported, short-term success (Miles 2001; ten Have 2011). Even those that compose public campaigns to change eating habits by offering useful health and weight information acknowledge the limitations and difficulties faced even when they involve all stakeholders and trial campaign ideas with the public (Maitland). Others believe that anti-obesity campaigns stigmatises low SES groups, don't educate the public effectively and imply that overweight is both unhealthy and a disease, without acknowledging the barriers faced. Indeed, one Australian study of obese people showed that they particularly disliked the negative approach and scare tactics used in such campaigns (Thomas 2010).

Barriers

One major barrier to educating the population is that 46% of adult Australians do not have the "minimum literary skills required for individuals to meet the complex demands of everyday life and work in the emerging knowledge-based economy." (Adult Literacy and Life Skills Survey 2006). For numeracy skills, 53% of adult Australians do not meet the minimum level. Of those people who claimed they were good at maths, 44% did not meet the minimum numeracy skills, indicating that we live in a delusional world.

Another delusional barrier for the weight loss campaigns is that as we getter fatter, we are more accepting of overweight and misclassify ourselves from a weight perspective. This may reduce any interest in losing weight. In a US survey 21% of overweight women and 46% of overweight men felt that their weight was "about right" (Burke 2010).

It is likely that, to have the greatest effect on nutrition and nutrient intake is to continue with current government interventions in the food supply such as the Food and Health Dialogue and the folate and iodine supplementation programs.

Conclusion

There doesn't appear to be either a simple or a complex solution to getting people to eat better. Why are we unlikely to see weight loss and dietary change in the near future? Because we live in an affluent democracy where food is relatively cheap, available 24 hours a day, 365 days of the year and you can choose what you eat, from fruit to donuts. The default human position is to take the easiest short-term gains (taste, convenience) rather than look to the future. Public and personalised health campaigns should be about health, fitness and wellbeing. Forget weight loss – too difficult and no-one listens.