

8 Promoting healthy eating

8.1 Background

Dietary behaviours influence health and wellbeing at all stages of life. Good nutrition contributes to physical health and vitality, mental health and social wellbeing (National Public Health Partnership 2001b). Diets high in vegetables, fruits and wholegrain cereals, and low in saturated fats, salt and added sugar are associated with protection against coronary heart disease, stroke, diabetes and other diet related chronic conditions (World Health Organisation 2003).

A recent evidence based review by the Joint World Health Organisation/Food and Agriculture Organisation Expert Consultation, *Diet, nutrition and the prevention of chronic disease*, concluded that dietary risk factors for CVD include a high intake of saturated fatty acids, trans fatty acids, sodium and alcohol. Protective dietary components include fish and fish oils, potassium, fruits and vegetables, a low to moderate alcohol intake, and dietary fibre and wholegrain cereals (World Health Organisation 2003). A high intake of saturated fatty acids is a probable risk factor for type 2 diabetes, while dietary fibre, fruits and vegetables are protective against this disease (World Health Organisation 2003).

Dietary trends

- Saturated fat intake among adult Australians (12 per cent of total energy intake) is higher than the recommended level of 10 per cent, although overall fat intake declined from 37 per cent in 1983 to 32–33 per cent in 1995 (Marks et al 2001b).
- Less than one in five Australian adults meets the recommended level of vegetable consumption (five or more serves per day) and only half meet the recommended level of fruit consumption (two serves per day) (Marks et al. 2001b).
- The estimated proportion of total energy intake from sugars (including naturally occurring and added sugars) was 19.4 per cent for adult men (aged 19 years or older) in 1995 and 20.9 per cent for adult women (Marks et al 2001b). The recent Joint World Health Organisation/Food and Agriculture Organisation Expert Consultation report recommended a goal of less than 10 per cent of free sugars⁵ (World Health Organisation 2003).
- An increase in mean energy intake of around 350 kilojoules per day occurred from 1983 to 1995 among adults aged 25–64 years. Without increases in energy expenditure, these increases in energy intake are likely to result in significant increases in body weight over times (Marks et al. 2001b).

Who is more likely to have poor nutrition?

- Men
- Young to middle-aged adults
- People with a low socioeconomic status
- Indigenous populations

⁵ 'Free sugars' are all monosaccharides and disaccharides added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and fruit juices (World Health Organisation 2003).

Costs of diet related disease

Poor nutrition is estimated to account for up to 10 per cent of the total burden of disease in Australia (based on the number of disability adjusted life years), due to obesity (4.7 per cent), inadequate consumption of fruits and vegetables (2.8 per cent) and high blood cholesterol (2.1 per cent). Inadequate fruit and vegetable consumption (fewer than two serves and five serves per day respectively) is also responsible for an estimated 11 per cent of the total cancer burden (Mathers et al. 1999). The costs of diet related diseases in Australia in 1989–90 were estimated at \$1.5 billion in direct health care costs and \$2.3 billion in total costs (National Health Strategy 1993).

Promoting good nutrition

The benefits of healthy eating are well recognised. Dietary guidelines for adults, children and adolescents (National Health and Medical Research Council 2003) and older Australians (National Health and Medical Research Council 1999) recommend that a healthy diet includes a variety of foods high in vegetables, fruits and wholegrain cereals, and low in saturated fats, salt and added sugar. However, it has proved difficult to promote healthy eating in the context of lifestyles and environments that frequently encourage the opposite. Comprehensive, multifaceted strategies are needed that target both individual and population-wide influences on eating behaviour.

Overview of evidence reviewed

Interventions to promote healthy eating have generally been conducted in the context of reducing the risk of CVD, cancer and type 2 diabetes. This section summarises the evidence for the effectiveness of:

- interventions in health care settings
- restaurant, supermarket, catering and worksite interventions
- community based programs
- mass media campaigns
- mass communication strategies
- multifaceted community based strategies
- pricing and fiscal food policies.

8.2 Interventions in health care settings

Intervention description

Interventions have ranged from a one-off mailout, to a single consultation, through to intensive lifestyle advice.

Population group/setting

The reviewed interventions targeted adults in health care settings (generally primary care).

Effectiveness

At best, the interventions had modest effects on some dietary patterns. There is some evidence that the more intensive, targeted interventions are effective, but brief, one-off interventions (such as a mailout of nutrition information kits) are ineffective.

Implementation issues

Culturally sensitive, specifically tailored interventions can achieve small but significant effects for disadvantaged groups.

Comments

Modest effects have been found overall. However, interventions in health care settings may be worthwhile for reaching traditionally hard-to-reach minority groups and individuals with low socioeconomic status, because these groups are more likely to be present in health care settings (seeking primary care) than to participate in community nutrition education programs.

References

Ashenden et al. (1997) (systematic review); Wilcox et al. (2001) (systematic review).

8.3 Restaurant, supermarket, catering and worksite interventions

Intervention description

Most restaurant based 'environmental' interventions have used 'point of choice' labels (for example, the labelling of low fat dishes as 'good for health') or changed either the availability or price of menu items.

Supermarket based interventions have usually involved 'point of choice' information and/or media advertising campaigns.

Workplace interventions have included a mixture of educational and environmental strategies, mainly centred on the workplace canteen (for example, comparative nutritional labelling, dietary advice via lectures/pamphlets/films/posters/newsletters/mail, menu changes and changes to the menu prices).

Population group/setting

The reviewed interventions targeted adults in food purchasing settings.

Effectiveness

Restaurant-based interventions are relatively inexpensive and easy to implement, and they appear to have been successful at improving sales figures for the targeted items over the duration of their use.

Supermarket interventions represent a generally effective method of relatively easily and cheaply influencing people's food choices.

A combination of educational and environmental interventions in the workplace can sometimes improve dietary habits. Two large worksite programs resulted in small but statistically significant increases in the intake of fruit and vegetables.

Implementation issues

- ‘Point of choice’ information appears to have been more effective if it included a promotional message (for example, a free taste, special of the day) as well as informative message about the product being a healthy choice.
- Recommendations for implementing health promotion interventions in the workplace include:
 - having top management visibly and enthusiastically supportive of, and involved in, the intervention
 - involving employees at all organisational levels in the planning, implementation and activities of the intervention
 - tailoring interventions to the characteristics and needs of the recipients
 - optimal use of local resources (human, physical and organisational) should be made in organising and implementing the intervention
 - evaluation should be an integral part of any new intervention program. It should include a range of outcome and process measures.

Comments

Most studies were unable to assess the effects of the intervention on overall dietary habits, so the optimum mix, intensity and duration of interventions have yet to be determined.

References

Hider (2001) (systematic review); Peersman et al. (1998) (systematic review); Caliska et al. (1999) (systematic review).

8.4 Community-based programs

This section reviews community based programs targeting only eating behaviour. Other community based programs are multifaceted interventions that include nutrition as just one component (reviewed under ‘Multifaceted community based initiatives’ below).

Intervention description

Interventions in community settings have included small group educational, motivational and behavioural programs (including monitoring) for approximately an eight-week period.

Population group/setting

The reviewed interventions targeted adults in community settings, focusing mainly on fruit and vegetable consumption, often in the context of cancer prevention.

Effectiveness

The interventions were found to result in a modest increase (approximately half a serving per day) in the consumption of fruits and vegetables.

Comments

The interventions frequently recruited people (mainly women) who were already thinking about increasing their fruit and vegetable intake.

References

Caliska et al. (1999) (systematic review); Baghurst (2003) (narrative review).

8.5 Mass media campaigns**Intervention description**

Mass media campaigns to promote healthy eating have promoted fruit and vegetable consumption and low fat dairy products, as well as providing more general nutritional advice to reduce CVD (usually focusing on reducing the intake of saturated fat). Media campaigns are rarely implemented and evaluated on their own without complementary community based programs. One such 'media only' study was the US '1% or less' campaign promoting the consumption of low fat milk, which used paid advertising plus public relations.

Population group/setting

The US '1% or less' campaign targeted a relatively small US city (35,000 people) with its own newspapers and television and radio stations.

Effectiveness

There was good evidence of effectiveness from the US trial under certain circumstances (see 'Implementation issues'), although the sustainability of impacts was not assessed beyond six months. The mass media only campaign was estimated to be more cost-effective than the media campaign plus community based programs, because community programs are labour intensive and reach a smaller proportion of the population (around 20 per cent compared with an estimated 90 per cent reached by the mass media). At around \$1 per person, the media campaign would be costly if expanded to cover the whole population. A further consideration is that the program targeted only one food product (milk).

Implementation issues

The US study identified the following success factors:

- The campaign used paid advertising as well as public relations strategies.
- It focused on a simple dietary change message (whereas many healthy eating campaigns focus on whole diet or entire food groups).

- The potentially complex behaviour was broken into steps that were easier for consumers to understand, easier for consumers to follow and easier to communicate through mass media.
- The advertisements and press materials included strongly worded messages that clearly communicated the benefits of drinking low fat milk and the negative attributes of high fat milk in a memorable way (for example, the advertisements compared the saturated fat content of one glass of whole milk to that of five strips of bacon).
- The hard hitting messages were in contrast to ‘many public health campaigns, especially those run or funded by governments, that use mildly worded, vague messages to avoid upsetting anyone, including the food and other industries’ (Reger et al 1998).
- The message could be easily communicated to the public—that is, the switch to low fat milk was promoted as an easy way of cutting saturated fat intake and reducing the risk of heart disease.
- Paid advertising (in contrast to public service announcements) can be strategically placed to reach a target audience.
- The campaign received considerable publicity on television and radio, and in newspapers.
- At the time of the campaign, there was a strong link between milk, saturated fat, plasma low density lipoprotein cholesterol levels and CVD as a leading cause of death for US men and women.
- The relatively small city (35,000 people) has its own newspapers and television and radio stations.
- Community leaders and most media outlets supported and actively promoted the campaign.
- A media only approach may not be effective for some more complex nutrition messages (although thought should be given to how they can be broken down into a series of simple messages).
- The products promoted must be readily available in appropriate variety.

The US campaign used materials developed for a state-wide campaign as the basis for an intense local mass media campaign. Because the materials had already been developed, the cost was relatively low (approximately \$43,000) and compared favourably with community based programs. In the Victorian context, a local area may be able to use media campaign materials developed at the national or state level for use with local newspapers, billboards, community radio and local commercial television.

Comments

- One mass media only campaign (paid advertising and public relations) appeared to have success similar to that of an intervention that combined mass media with community based programs (educational programs at supermarkets, schools and worksites).
- On the other hand, a paid advertising only campaign resulted in only short-term change.

- The good program reach of a paid advertising campaign is likely to be countered by the poor sustainability of both the campaign and its effects.
- Media campaigns need to be complemented with policy and environmental changes to achieve cost-effective, sustainable change.

References

Reger et al. (1998); Reger et al. (1999); Reger et al. (2000).

8.6 Mass communication strategies

Intervention description

The range of initiatives include dietary guidelines, food labelling, nutrition sign-posting and nutrition claims.

Population group/setting

The reviewed interventions targeted the general population.

Effectiveness

Dietary guidelines represent one of a number of diffuse, population-wide interventions whose impacts are difficult to measure. Social marketing campaigns promoting dietary guidelines can raise awareness, change attitudes and increase knowledge.

Mandated nutrition information panels appear to (1) facilitate the food choices of individuals trying to reduce their fat intake, (2) influence the food choices of a large proportion of the population and (3) have greater impact among women, higher educated people, those with greater nutrition knowledge and awareness, and those who believe in the importance of diet for reducing the risk of disease.

Nutrition sign-posting programs such as the 'pick the tick' program run by the National Heart Foundations in Australia and New Zealand make identifying healthier food choices simpler for consumers, are frequently used by shoppers when choosing products, and serve to encourage food manufacturers to reformulate products to meet de facto standards.

Health and nutrition claims are an important influence on consumers' food choices and manufacturers' formulation of food products.

Implementation issues

Food labelling needs to be complemented by other strategies designed to influence the food choices of low income and less educated consumers.

Negative consequences of health and nutrition claims can occur when messages are misleading or misinterpreted. For some low fat products, for example, added sugar means that the energy density of the food remains unchanged, negating the impact of low fat products in preventing weight gain. It has been recommended that products with 'low fat' or 'reduced fat' claims be required to reduce or at least publicise their energy density.

Labelling regulations may need to be extended to include foods purchased from fast-food outlets (for example, the provision of nutrition information on menus and/or food wrappers).

Comments

Health promotion practice could include:

- advocating for appropriate food labelling (nationally or locally in workplaces or fast-food outlets)
- running nutrition education programs on dietary guidelines, food labelling, nutrition sign-posting, and health and nutrition claims
- developing and implementing educational strategies appropriate for priority population groups.

References

French et al. (2001) (narrative review); Miller and Stafford (2000) (systematic review); Swinburn et al. (2003) (narrative review).

8.7 Multifaceted community based initiatives

Intervention description

Multifaceted community based initiatives have employed education, mass media and mass screening. Many have addressed nutrition as one component of an overall CVD prevention strategy. Activities have included walking clubs, aerobic exercise classes, heart healthy cooking demonstrations, community blood pressure and cholesterol screening, and CVD education programs.

The Western Australian '2 fruit 'n' 5 veg' campaign (implemented in five phases from 1990 to 1993) included television advertising and a range of supermarket, worksite, school and community activities and resources. Interventions in the US '5 a day for better health' campaign included:

- nutrition education activities in retail settings
- nutrition promotion through media and communications channels
- various community interventions, including worksite programs, a program targeting low income women, a program among rural African American church members, and a worksite plus family intervention.

Population group/setting

Multifaceted CVD prevention programs were conducted in large communities (over 100,000 people), mostly in the United States and Europe. Some of the reviewed programs targeted minority populations in the United States. The Western Australian and US fruit and vegetable campaigns targeted the general population.

Effectiveness

Most multifaceted community based initiatives addressing nutrition as part of an overall heart health intervention did not lead to significant changes in dietary behaviours at the population level. Overall, the US '5 A Day' campaign did not achieve significant improvements in fruit and vegetable consumption, based on nationally representative surveys. However, community programs in particular settings were effective, demonstrating that well resourced, well planned and well implemented interventions for improving fruit and vegetable intake can be effective in a range of settings.

Dietary surveys conducted in Perth in 1989 and 1994 (before and after the '2 fruit 'n' 5 veg' campaign) reported increases in the consumption of fruit (up 0.17 serves) and vegetables (up 0.72 serves). This outcome, while promising, needs to be interpreted cautiously, given possible population changes over that time.

Implementation issues

- Generalised food messages appear unlikely to change specific nontargeted behaviours such as fruit and vegetable intake.
- To have an impact on dietary patterns at the population level, multifaceted community based nutrition promotion programs that include a mass media campaign need to have the following characteristics:
 - The messages must be simple and include a specific health link.
 - The promoted changes must be easy to make (that is, available and affordable).
 - The mass media component should include strategically placed paid advertising.
 - The campaign needs to be of sufficient duration and intensity.
- Community based programs should be developed specifically for minority and disadvantaged groups.

Comments

Sustainable population level improvements in nutrition are more likely to be achieved if community based programs focusing on individual behaviour change are complemented with the potentially more cost-effective, passive and equitable environmental and policy interventions that reach all sectors of the population regardless of interest, circumstances and demographic characteristics.

References

Hider (2001) (systematic review); Caliska et al. (1999) (systematic review); Miller and Stafford (2000) (systematic review).

8.8 Pricing and fiscal food policies

Effectiveness

At the individual level, pricing has a strong effect on food choices. Lower pricing (10 per cent, 25 per cent or 50 per cent reductions) leads adolescents and adults to increase their purchasing of low fat snacks (9 per cent, 39 per cent and 93 per cent increases respectively) and fresh fruit and vegetables in schools and workplaces.

Comments

At a population level, Swinburn et al. (2003) reported proposals for governments to use subsidies and taxes to influence buying patterns, but such proposals are contentious. An alternative approach described by Swinburn et al. (2003) is the application of a small tax (too small to affect sales) on high volume foods of low nutritional value, such as soft drinks, confectionary and snack foods. The tax revenue would be used to fund nutrition programs or subsidise fruit and vegetables.

Another proposal is that public health nutrition impact assessments be conducted during the formulation of fiscal food policies. Currently, these policies are driven mainly by agricultural, economic and political agendas (Swinburn and Egger 2002). The potential role of health promotion practitioners in pricing and fiscal food policies is twofold: (1) advocating for healthy public policy at the national or state level, and (2) developing intersectoral partnerships to develop and/or implement changes in policies and pricing at the local level.

8.9 Specific population groups

Indigenous Australians

The health status of Australia's Indigenous people remains the worst of any subgroup in the population (Shannon 2002). Indigenous life expectancy is 15–20 years less than that of non-Indigenous Australians, with twice the rate of mortality from heart disease and 17 times the rate of mortality from diabetes (Shannon 2002). Indigenous Australians are less likely to eat a diet consistent with dietary guidelines and more likely to suffer from both overnutrition and undernutrition. The impact of past policies and practices, economic disadvantage and the 'introduced' diet are major causes of these poor health outcomes.

The National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan (NATSINSAP)—developed by the National Aboriginal and Torres Strait Islander Nutrition Working Party as part of the national public health nutrition strategy, *Eat Well Australia*—summarised the findings of an unpublished review (Butlin et al. 1997) of food supply and nutrition programs for Aboriginal and Torres Strait Islander people. The review noted that few programs had been adequately evaluated, but indications of good practice included:

- ensuring community involvement and support in all stages of the project
- empowering the community rather than imposing priorities
- using multifaceted interventions

- monitoring and providing feedback to participants
- modifying strategies according to need (National Public Health Partnership 2001 c).

These principles of good practice were evident in the GutBusters waist loss program implemented in Torres Strait Islander communities (Egger et al. 1999) (see chapter 6). In addition, successful nutrition promotion programs with African American populations (Wilcox et al. 2001) have shown similar sensitivity to the needs and interests of minority population groups (see chapter 4).

The NATSINSAP identified the following seven areas for action to improve nutrition in Indigenous populations:

- food supply in remote and rural communities
- food security and socioeconomic status
- family focused nutrition promotion (for resourcing programs and disseminating and communicating good practice)
- nutrition issues in urban areas
- the environment and household infrastructure
- an Aboriginal and Torres Strait Islander nutrition workforce
- national food and nutrition information systems (National Public Health Partnership 2001 c).

Other priority groups

In the United Kingdom, a large number of small scale community development initiatives have been implemented in low income areas to help address problems of physical and economic access to healthy foods, commonly fruit and vegetables. The aim of these community food projects is to improve food awareness, access and availability for people on a low income. They include food co-ops, community cafes, cooking clubs and community allotments. Besides improving access to food, the projects aim to enhance cooking skills, increase confidence, offer social support and provide common ground for local people and professionals to work together in innovative ways (McGlone et al. 1999). The UK Health Education Authority and the National Food Alliance established a food poverty database that contains details of about 150 community food projects, including how each project is managed, how it is funded, how to make contact, whether the project has been evaluated and the project's main achievements and difficulties. The searchable database (www.foodpovertyprojects.org.uk/jointdatabase) enables searches by project type and population group.

Case studies of two recent community food insecurity demonstration projects in Victoria (Maribyrnong and Yarra) are available from VicHealth (<http://www.vichealth.vic.gov.au>).

A review of 25 food projects conducted in the UK for the Joseph Rowntree Foundation (McGlone et al. (1999) had the following findings:

- Local food projects can do many things: improve access to food, enhance cooking skills, increase confidence and offer social support. They provide common ground for local people and professionals to work together in innovative ways.

- There are many different types of food projects, yet none was found to be more sustainable than another. Two key factors influencing sustainability were funding and community involvement. Also critical were professional support, the ability to reconcile differing agendas, shared ownership, credibility, the presence of dynamic workers and the project's capacity to respond to the needs of all those involved.
- Setting up a food project takes considerable time and effort. Most of the projects studied took up to two years to become established and integrated into a community.
- While short term and one-off funding are essential to the set-up of projects, funding structures mean that projects struggle to find ongoing running costs. Many of those reviewed either tried to reinvent themselves to meet new funding criteria or devoted significant time and energy to chasing small sums of money. Insecure funding also led to difficulties in planning and development.
- Both volunteers and professionals involved need support and training because many are working in new and challenging fields.

The researchers reached the following conclusions:

- Social gains for individuals and communities are intrinsic to projects achieving nutritional and health benefits. Projects should be evaluated on the increase in skills and confidence, the changes to shopping and eating behaviour, and longer term nutritional and health outcomes.
- Food projects are only part of the solution to health inequalities. They do not provide comprehensive coverage or integrated solutions, and they are often confined to the periphery of regeneration initiatives.

A review of community food initiatives concluded that 'food projects are clearly not the only way to answer health inequalities, but they can be part of a wider strategy' (Caraher and Anderson 2003). The small scale nature of many projects limits their potential to have an impact on the nutritional status of disadvantaged groups at the population level. Caraher and Anderson (2003) concluded that 'fruit and vegetable based schemes need to be encouraged and supported, but there is also a need to place them within broader public health agendas that address the commercial and ecological aspects of food policy'.

8.10 Future directions for promoting healthy eating

Australia's national public health nutrition strategy, *Eat Well Australia*, guides government agencies and other organisations in undertaking activities to improve the nutritional health of the population (National Public Health Partnership 2001b). The strategy identified six strategic directions for achieving health gain: (1) promoting fruit and vegetable consumption; (2) promoting healthy weight; (3) promoting good nutrition for mothers and infants; (4) promoting good nutrition for school-aged children; (5) improving nutrition for vulnerable groups; and (6) addressing structural barriers to safe and healthy food.

The strategy also identified and described 26 *action areas*, with associated rationales, key objectives, potential partners, capacity requirements, performance indicators, operational links, funding implications and risks (National Public Health Partnership 2001b).

In support of these objectives, a *national portfolio approach to increasing fruit and vegetable consumption* has been proposed. This approach includes social marketing, food supply approaches, and health sector, community and school interventions (National Public Health Partnership 2000b).

8.11 Resources

- Eat Well Australia (<http://www.health.gov.au/pubhealth/strateg/food/nphp.htm>) Australia's national public health nutrition strategy
- The national portfolio approach to increasing fruit and vegetable consumption (<http://www.nphp.gov.au/publications/signal/faet>)
- Case studies of two community food insecurity demonstration projects in Victoria (Maribyrnong and Yarra) (<http://www.vichealth.vic.gov.au>)
- The *FoodCent\$* project, which began in Western Australia in 1992, aimed to show people on low incomes how to select and prepare healthy, nutritious meals and keep within their budgets. Participants in the program were taught about healthy foods using the healthy diet pyramid. Participants also learned practical food selection skills on supervised supermarket trips and had cooking lessons and demonstrations. The *FoodCent\$* program, with some modifications the program has been used with Vietnamese and Aboriginal communities.
- The US Centres for Disease Control and Prevention *Resource guide for nutrition and physical activity interventions to prevent obesity and other chronic diseases* (<http://www.cdc.gov/nccdphp/dnpa/physical/index.htm>)
- The UK Health Education Authority and the National Food Alliance food poverty database (www.foodpovertyprojects.org.uk/jointdatabase)—a searchable database (which can be searched by project type or population group) that contains details of about 150 community food projects, including how each project is managed, how it is funded, how to make contact, whether the project has been evaluated and the project's main achievements and difficulties.