

Perspective

Dietary behaviour changes to improve nutritional quality and health outcomes[☆]

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Abstract

This narrative review examines the changes required in dietary behaviours to address the current global burden of disease resulting from diet-associated cardiometabolic dysfunction. Beginning with known relationships between nutritional factors and health outcomes, the review identifies a number of problems with current dietary behaviours, using examples from the Australian context. Implications for practice are then discussed drawing on insights from research in dietary trials. From a concerted research effort across the globe, the effects of foods, food components and dietary patterns on cardiometabolic parameters have been reasonably well exposed. The evidence base for these effects underpins dietary guidelines, which aim to meet nutritional requirements and protect against cardiometabolic disease. Thus foods recommended in dietary guidelines tend to be consistent with research that identifies foods that appear protective and those that appear detrimental to health. The need for dietary behaviour change is apparent through analyses that have exposed increasing consumption of detrimental foods, despite the availability of healthy foods. However, behaviour change is a complex area, and where weight loss is also required, there is high level evidence that interdisciplinary efforts combining diet, physical activity and psychological support are warranted. Insights from dietary trials and research indicate that focussing on foods and dietary patterns is integral to the specific dietary change required for health outcomes, but social and behavioural factors will influence the achievement of these changes.

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Introduction

Dietary guidelines refer to food choices and dietary patterns that meet requirements for essential nutrients and protect against the development of chronic lifestyle-related disease.¹ With the current prevalence of global obesity,² dietary guidance must also consider energy levels that support achievement or maintenance of a healthy body weight. This means that foods in the diet must have a high nutrient density in order to deliver required nutrients without excess energy. In the

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case of some nutrients, such as sodium and saturated fatty acids, excessive consumption may also need to be curtailed due to associations with hypertension and cholesterol levels respectively.¹ This narrative review examines the changes required in dietary behaviours to address the current global burdens of disease resulting from diet-associated cardiometabolic dysfunction. It examines the known relationships between nutritional quality and health outcomes, outlines current problems with dietary behaviours, referencing Australian data for an example, and discusses implications for practice drawing on insights from experiences with dietary trials.

Nutritional quality and health outcomes

Promoting dietary behaviour change first requires a sound evidence base for the relationship between dietary factors and disease. This evidence base exposes both beneficial and detrimental factors. When people consume food, multiple chemical compounds are delivered to the body and interact with various physiological and metabolic processes.³ A substantial amount of research has been conducted on the way in which foods and food components influence pathways and mechanisms of action related to cardiovascular and metabolic health. A recent review on dietary and policy priorities for cardiovascular disease, diabetes and obesity noted that to date a number of dietary factors are known to influence health.⁴ These included 11 different foods which appeared to have a positive impact (fruit, vegetables, nuts, wholegrains, legumes, fish, shellfish, yoghurt, cheese, milk, vegetable oils) and a couple of others which may be detrimental (refined grains, processed meats). Food components and beverages which would be beneficial (such as phytochemicals and coffee) or detrimental (such as excess sodium and sugary beverages) were also identified. Overall, however, the impact of food preparation, food processing and dietary patterns needed to be considered. The pathways and mechanisms by which these dietary factors exerted their influence included glucose-insulin homeostasis, blood lipids, blood pressure, and the functions of the endothelial, cardiac and adipocyte systems, the gut microbiome, systemic inflammation and hunger and satiety.⁴

Some of these dietary factors are whole foods, some are food components and others are dietary patterns. They are studied through laboratory experiments, observational research on population eating patterns, and clinical trials. The dietary variable may be defined at the food, dietary pattern or nutrient level, but in reality, they

are all inter-related (Fig. 1). A low fat diet, for example, may appear as a dietary pattern, but it achieves its characteristics profile by virtue of its nutrient (fat content). Likewise, this nutrient content is achievable because of a set of food choices, in this case with a focus on low fat foods. Appreciating the connection between nutrients, foods and whole diets is a critical component of the development of dietary guidelines.¹

Research on the effect of dietary components on health outcomes can vary in nature. In establishing the evidence for health claims on foods, for example, randomised controlled trials provide direct evidence of effects, observational studies indicate associations and mechanistic research confirms the plausibility of the diet-disease relationship.⁵ Research from randomised controlled trials and observational studies provides “in principle” evidence of the diet-disease relationship. To translate this to practice, efficacy trials are required to test adherence and achievement of health outcomes under conditions of usual care (Fig. 2).

Dietary behaviour change

There is evidence across the globe that dietary behaviours need to change to reduce the risk of cardiometabolic disorders.⁶ Using a wide range of data sources including nationally representative dietary surveys adjusted for total energy intake, this analysis identified 10 healthy items, as foods (wholegrains, fruits, vegetables, fish, nuts and seeds, beans and legumes, and milk), and nutrients (dietary fibre, total polyunsaturated fatty acids, and plant omega-3 fatty

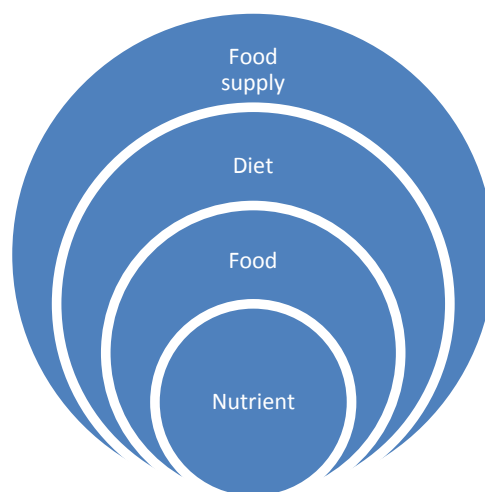


Fig. 1. Inter-relationship between nutrients, foods, diet and the food supply.

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