Converting theory into practice, and back again

The need to convert theory into practice has always been important in the nutrition field. In simple terms, it involves incorporating scientific research into activities which support nutritional health. Evidence-based practice is a specific version of this process. Within healthcare services, evidence-based medicine has grown through the development of transparent systems of review, such as that demonstrated in the National evidence based guidelines for the management of type 2 diabetes mellitus (1). Although addressing a broad range of clinical and preventive issues, sections of this report deal with nutrition-specific areas and produce recommendations for practice supported by evidence statements. The review system is based on National Health and Medical Research Council guidelines which specify criteria for levels of evidence in human studies (2). The highest level of evidence is a systematic review of all relevant randomised controlled trials (RCTs).

Although there are limitations, this system is useful for practitioners in a number of ways. First, it enables the recognition of different forms of research (for example, controlled trials, comparative observations, animal model experiments) and establishes a hierarchy for review. It helps practitioners to differentiate between information from different kinds of scientific research and supports decisions on direct incorporation into practice. Second, by establishing ‘rules of review’, it supports the development of a common understanding and hence standards of care. With agreement on what counts as defensible findings, ambiguities which plague nutrition can be reduced. Third, it identifies gaps in research, and finally, it infers the need to bring the processes of research and practice closer together. For each of the benefits, however, it is easy to see the problems for the nutrition field.

To begin with, dietary interventions have many different characteristics to pharmacotheerapeutic studies (3) on which RCTs are modelled, and there are limited nutrition-based RCTs published in the scientific literature. In the area of gestational diabetes mellitus for example, although nutrition care is recognised as the cornerstone of treatment, it is seriously understudied (4). In many cases, nutrition practice is based on other forms of evidence accumulated over time from a range of sources, including the observation that certain strategies work. Here, the gaps in formalised, published nutrition research become apparent, and need to be addressed in order for practice to gain the recognition it deserves. Even where clinical trials have been conducted, the controlled nature of the study does not readily translate to the practice context. In part, this may reflect the components of practice which are not based on nutrition science, for example the process of counselling for dietary change. For results to be adequately transferred to practice, it has been argued that clinical trials should also incorporate systematic behavioural research (5), informing practitioners on how the intervention is best conducted. In addition, practitioners need studies which provide evidence that the intervention works, by means feasible in healthcare settings (6). This suggests that the processes of both research and practice need to be kept under constant and relative review so that future developments in both areas reflect each other productively.

Nutrition science provides the evidence for the best possible dietary formulations at a given point in time. In diabetes and heart disease management, for example, these formulations are given in terms of energy and macronutrient intake values, which the practitioner needs to convert to advice on food consumption patterns. In the clinical trial context, research has shown that this advice is more likely to be adopted if it is individualised (7,8), so assessment of usual dietary patterns is an important component of clinical management. Dietary methodology is a well developed area of nutrition science, but it is centrally located in the population research context, and we need to see more studies which show how dietary assessment methods in clinical practice contexts can be of research quality (9).

Individualising dietary advice, whether for patients or populations, requires a working knowledge of food composition data, an understanding of food intake patterns, and a means by which nutrient targets can be assured. Simplified food composition data, such as that found in ‘ready reckoner’ systems enable this process in the clinical context, but practitioners also need to be able to identify which foods are likely to have the greatest impact on the nutrients of concern. Studies on food pattern consumption (10–12) are very useful in progressing this element of theory-practice translation.

Perhaps one of the most difficult elements, however, is the process by which information on dietary change is communicated to patients and consumers, assuming that this process influences behaviour and thereby treatment and population health outcomes. There are a number of theoretical positions which inform these processes (13,14), but practitioners need to feel they are adequately trained in this area and that these forms of delivery actually work (15,16). There is a need for more research which tests the application of theoretical positions from the behavioural sciences in nutrition and dietetic intervention contexts (16,17).

The evaluation design of any intervention provides the ideal location for theory and practice to meet comfortably. Evaluation is by nature a judgmental process, so it is imperative that outcomes result in recommendations for change. At the same time, evaluation incorporates scientific methodology, so findings need to stand alongside and complement advances in discipline-based scientific investigations. There are major challenges here (6,18). The practical realities of service delivery need to be incorporated in such a way that they do not compromise requirements for study design. Team-based research with due respect for the special contributions of both scientists and practitioners will find a way through.

There are many ways in which we can address the issue of converting theory into practice. First and fore-
most, however, this should not be seen as a one-way street. There is an interdependence between the two. They both derive relevance from each other. Theory may be seen as a representation of practice as well as a reference point for practice. Part of the reason they can sometimes appear disjointed is the way in which scientific knowledge is packaged. Agreed systems for investigation and review are necessary to support communication within scientific disciplines, but if they are inflexible they may close doors on new discoveries and on innovative ways of addressing fundamental questions. Debate surrounding the theory-practice divide, however, is a healthy means to thoughtful developments in both domains.

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References