

Obstacles to quality nutrition research: inadequate linkages to public health delivery

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When talking about 'nutrition research', many people would envisage a body of research focusing around physiological processes or a 'faulty diet leads to disease' model. Hence we have had investigations into the composition of food, consumption of individuals and populations, disease patterns in populations, and studies of the effect of changing various dietary factors in fairly small groups. Much of this research seems to be based in the view that persons with 'inappropriate' diets can be separated from persons with 'appropriate' diets and counselled to change their habits. This individual-based view conflicts with public health delivery for two main reasons:

- it assumes that the majority of disease occurrence we are trying to prevent occurs in those with identifiable inappropriate habits/ risk factor levels
- it assumes that individual risk factor levels are not related to societal influences and can be changed without the concomitant need to alter some of the prevailing societal norms.

Neither of these assumptions is always true.

For example, it is well known that the majority of heart attacks occurs in people with cholesterol levels that are about average for a Western population, not in individuals who are at the population extreme. This situation arises because, unlike the classical deficiency diseases, it is not possible to define a no-risk level for the nutritional influences on chronic disease. Thus the sheer number of people with moderate levels of serum cholesterol generates more cases than is generated by the very small proportion of people with a high level. Thus the greatest reduction in the number of cases of disease is achieved by focusing on those with average levels, not those with high levels of a risk factor¹. This point is often not understood because many people are not clear about the different uses of the relative risk (which describes the strength of a causal relationship) and the population attributable risk (which describes the numbers of events that can be prevented).

It is also increasingly recognised that an individual's behaviour is influenced by external factors. For example, when cigarette prices increase, the number of smokers decreases. Thus health education is only one strategy for promoting health. Indeed, education is not the same as 'the development of personal skills' enunciated as one strategy in the Ottawa Charter. The other strategies in the Charter

are: building healthy public policy, creating supportive environments, strengthening community action and reorienting the health services. Three of the five strategies are focused on altering the general environment and require inter-sectoral action. It is clear that these types of approaches were included when the Australian Food and Nutrition Policy was developed². In addition, it is increasingly recognised that education about nutrition does not lead to changes in behaviour³. The curriculum being developed as one strategy under the Australian Food and Nutrition Policy is based in the health promoting schools concept and aims to 'enhance students' ability to make positive decisions, choices and actions⁴. The focus is on the transference of learning to outside the classroom.

Hence, the approach of public health (or population health as it is now increasingly called in Australia) delivery is to the population as a whole and not to a screening-identified subgroup. Thus the skills to do the research needed to support and evaluate this approach are very different from the skills needed to do laboratory/ medical care-oriented nutrition research.

- The use of multiple strategies means that no one person will have all the skills needed to conduct or evaluate research.
- Many desirable strategies (such as changes in local government policy) could not be evaluated using probability statistics-- hence there needs to be much greater awareness of what constitutes good qualitative research among scientists who have only dealt with quantitative results in the past.
- The fairly small changes in risk factor levels anticipated theoretically lead to great reductions in disease occurrence at some time in the future; the studies to prove the effectiveness of a strategy will often need to be very large-- thousands or hundreds of thousands of people followed for more than one year-- and need to examine health/ disease/ quality of life endpoints not simply changes in intermediate risk factors; implementing, managing and analysing this type of study requires specific training not usually gained at the lab bench.
- Even when an intervention is shown to be efficacious, it may not be the best way of using scarce resources-- thus a view of the overall health, rather than simply the nutritional health, of the population must be considered.

- Promotion of social justice is an underlying philosophy of Australian policies; thus when strategies are implemented at the population level, adverse effects on minority and vulnerable groups should also be considered, in addition to the average result; for example, if low fat or nutrient-fortified products are more expensive, they will be less accessible to the lower socioeconomic group who have worse health than the upper socioeconomic groups.

It is clear from the foregoing, that high quality research that is relevant to population health delivery requires a multidisciplinary team. Behavioural scientists are needed to determine the best way of delivering a message, epidemiologists and biostatisticians to design, manage and analyse the study, health economists to measure outcomes (such as quality of life) and conduct an economic appraisal of the use of the results. Hence one obstacle to producing high quality research in the public health arena is the assumption that training in nutrition is adequate for conducting this type of research.

Another obstacle is the assumption that people employed in public/ population health by Health Departments have the time or resources to conduct this type of research. These people have a particular problem.

Formerly, service delivery measures such as the number of occasions of client contact were the basis for evaluating the worth of a service. Now the emphasis in hospitals is on health outcomes and this emphasis is about to extend to community and population health services. Hence personnel will need to be able to point to high quality research demonstrating that their services do, indeed, improve the health of the community to maintain or increase the number of positions. It is not easy to find much high quality research to help them. Thus greater links between research institutions or universities and health departments are needed to generate the type of evidence required to demonstrate that the results of basic science or clinical studies have a role in improving the health of the population.

References

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