

Mini Review

Case studies and evidence based nutrition

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The clinical nutrition case study is a neglected area of activity and publication. This may be in part because it is not regarded as a serious contributor to evidence-based nutrition (EBN). Yet it can play a valuable part in hypothesis formulation and in the cross-checking of evidence. Most of all, it is usually a point at which the operationalisation of nutrition evidence is granted best current practice status.

Key Words: clinical nutrition practice, nutritional epidemiology, hierarchical evidence, portfolio evidence, econutrition

THE PLACE OF THE CASE STUDY IN MEDICAL AND CLINICAL NUTRITION PRACTICE

Reflection on one's clinical practice has not only taken place from time immemorial, but is now becoming a more formalised part of continuing medical education, which not often enough includes clinical nutrition.^{1,2} This is despite the relevance of food intake and, when required, nutrition support, to every body organ and system. The case study is the epitome of such reflection, but for its validity it requires peer review and an analysis which is contextual (for its community setting, and the health care system in which it operates), about ethics and equity (respects patient autonomy, not prejudiced in any way, accessible), sustainable and evidence-based (on an agreed, best practice and evolving science).

The case study also introduces new problems and ideas and identifies ways in which they may be tested. In itself it is a vehicle for testing the coherence of presumed evidence and practice.

Generally speaking, the day-to-day meetings of clinicians provide opportunities to 'tell the stories' of patient encounters in a systematised way and for critique. That this occupies such a large fraction of meeting time is testimony to the regard given to it as part of the learning process at all stages of professional maturity. Therefore, rather than be dismissive of it, it can be unapologetically valued and developed as a tool in the iterative journey of clinical practice discovery and evidence-creation. Indeed, most clinicians would agree that they have prospered throughout their professional performance by case study engagement.

Since clinical nutrition is particularly multidisciplinary, involving, *inter alia*, various medical graduates (general and specialist), nurses, dietitians, patient educators and coaches, pharmacists, physical educators or therapists, laboratory or investigatory technicians of different kinds, and epidemiologists, the case study may involve some or

all of their inputs.

The practice settings are of particular importance and are best understood with a thorough pursuit of clinical nutrition epidemiology.³ In this way the burden of nutritionally-related disorder and disease (NRD) in one's practice can be appreciated and pursued. Reports from developing economies are often challenging in this regard.⁴⁻⁷ This will become even more essential as climate change affects ecosystems and health in ways which are not entirely predictable except that food and water security will be compromised and require new clinical skill sets.⁸

THE NATURE OF NUTRITION EVIDENCE

There is now a catechism about evidence that insists that randomised double blind clinical trials are the best and gold standard of evidence for clinical practice. Problems with this view include the misread that infers causality from significant effects of an intervention on a theorized outcome, from the interventions being no more than a few and rarely of the complexity of food, meal, food pattern or food system (ie, highly reductionist rather than integrative), difficult to blind, and so long to conduct against a rapidly changing environment.⁹

Instead, a more portfolio than hierarchical approach to clinical and public health nutrition evidence is required as has been used in the World Cancer Research Fund (WCRF) approach to the evidence for diet, physical activity and cancer; it also takes account of consistency with

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evidence for broader health objectives.¹⁰

An advantage of a case study is that the more complete story can be told and discussed, the nuances and oddities explored and the practicalities of implementation or therapy considered. The process of studying the case can be one of operationalisation of the evidence.

THE ITERATIVE CHARACTERISTICS OF A CLINICAL NUTRITION CASE STUDY

Not only is the case study a practical exercise, but one in which there can be multiple inputs into decision-making and future advances in diagnosis and management.¹¹

Recent clinical nutrition case reports illustrate both the possibilities and limitations of the way in which we report clinical nutrition work practices.¹²⁻¹⁵

They contribute to EBN as we know it today.^{16,17}

CONCLUSIONS

The clinical nutrition case study represents an important step in EBN and the regular validation of clinical nutrition practice.

AUTHOR DISCLOSURES

The author has no conflict of interest in regard to this paper.

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個案研究與實證營養學

臨床營養之個案研究在出版中是一個被忽視的領域。部分原因可能在於，它不被視為實證營養學(EBN)之重要貢獻者。然而，它卻在假說成形與交叉驗證中扮演重要角色。最重要的，在認為營養證據操作化乃是目前最好實行方式下，個案研究確實有其意義。

關鍵字：臨床營養施行、營養流行病學、分級證據、組合證據、生態營養