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Discourse

A Descriptive Feast But an Evaluative Famine: Implementation Research in Nursing

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When invited to write a discourse, I felt an immediate need to gain a better understanding of the concept of discourse. Wikipedia suggested the following:

> In the social sciences (following the work of Michel Foucault), a discourse is considered to be an institutionalized way of thinking, a social boundary defining what can be said about a specific topic, [sometimes even constituting]…"the limits of acceptable speech"…; it is not possible to escape discourse. (http://en.wikipedia.org/wiki/Discourse)

I consider this definition to be highly applicable to the field of nursing research. In nursing there exists a dominating descriptive research tradition that is firmly ingrained in many university nursing departments, impacting on how we think about ways of doing research. In my view, this descriptive research posture is a paradox, largely because nursing practice encompasses a large number of interventions and procedures. Because nursing is a practical profession, there is always room for improvement, which, in turn, should increase its contribution to patient well-being and health. Such a development, however, cannot be supported solely by a research approach that focuses on enhanced understanding of the perceptions and experiences of nurses and patients. There is also a profound need for evaluative and experimental research to enhance knowledge about what works in practice and its impact on patient outcomes — that is, the effectiveness of nursing interventions (Rahm-Hallberg, 2006). In discourse terms, it is time for a shift.

Narrowing the focus to knowledge translation and implementation research in nursing, the scenario described above is all too familiar. In an overview of the literature on research utilization in nursing and allied

health professions, only 1.3% of 544 identified articles evaluated implementation strategies (Estabrooks, Scott-Findlay, & Winther, 2004). Approximately 60% of the 544 articles were classified as general opinion pieces. Another example is the approximately 45 studies that have been conducted using the BARRIERS Scale for measuring barriers to research use among nurses (Hutchinson & Johnston, 2006). Only one of these studies reported on the evaluation of an intervention (Fink, Thompson, & Bonnes, 2005). A third example is the large body of literature examining predictors of research use among nurses. The predictors studied have preponderantly been individual characteristics (Estabrooks, Floyd, Scott-Findlay, O'Leary, & Gushta, 2003), but even a number of organizational factors have been investigated (Meijers et al., 2006). Only in exceptional cases have such studies involved interventions. A comparison with the medical profession is thought-provoking and telling. A systematic review of guideline implementation in the medical field included 235 studies (Grimshaw et al., 2006). In contrast, only four studies were reported in a recent systematic review of interventions to enhance research use in nursing (Thompson, Estabrooks, Scott Findlay, Moore, & Wallin, 2006). The small number of studies in the latter review can partially be explained by the inclusion criteria — for example, research use had to be explicitly measured. Yet the great difference between these two reviews in terms of number of studies underscores the divergence in the ways of approaching this field of research. We lack a recent systematic review of implementation of evidence-based nursing practices that looks at outcomes, such as changes in practitioner behaviour and patient outcomes. Such a review would certainly include more than four studies, but it would be highly surprising if it included more than 30.

Why do we have this situation of a descriptive feast but an evaluative famine? Some possible explanations include the youth of nursing research as a discipline, the strong tradition of qualitative research, the current power structures in health-care organizations, and the resources required to set up experimental studies. Furthermore, my experience points to a troublesome lack of relevant nursing outcome measures as a major obstacle in designing good intervention studies. The purpose of this discourse, however, is not to analyze the paucity of intervention research, but rather to touch upon some issues that need to be addressed in moving from a descriptive emphasis to efforts aimed at better understanding what interventions work (and why) in integrating research evidence into practice.

To set up a conceptual framework in this research field, I prefer to use the concepts of knowledge translation (KT) and implementation research (IR). The Canadian Institutes of Health Research defines KT as "the

exchange, synthesis and ethically-sound application of knowledge — within a complex system of interactions among researchers and users — to accelerate the capture of the benefits of research…through improved health, more effective services and products, and a strengthened health care system" (http://www.cihr-irsc.gc.ca/e/29418.html#The). Implementation research is "the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and care" (Eccles & Mittman, 2006, p. 1). The KT definition is general, covering central aspects of the use of research-based knowledge, whereas the IR definition emphasizes the need to study research uptake scientifically, calling for evaluation of which methods are helpful in implementing evidence in practice.

Let us look more closely at the issue of implementation methods. It is a field challenged by a number of urgent questions. First, what do we know about which methods are working? Unfortunately, not much. As has been pointed out, we do not have a current and comprehensive review in the nursing field on this topic. In a somewhat outdated review, based on papers of mainly poor quality, Thomas, McColl, Cullum, Rousseau, and Soutter (1999) conclude that educational interventions might be effective for implementing guidelines. In a recent review, Thompson and colleagues (2007) report on educational interventions as the main approach for putting evidence into practice. The findings are inconclusive, however, and the limited sample size and the poor methodology of the reviewed literature make interpretation especially difficult. Neither do the systematic reviews in the medical field provide the guidance that might be expected. In the most recent and most complete review, Grimshaw and colleagues (2006) are unable to offer recommendations on when to use a specific intervention to support implementation in a particular setting. Moreover, because there are several differences between nursing and medicine in terms of the work and the organization of work, it may not be wise to draw firm conclusions for nursing practice based on this review. On the other hand, I think it would be helpful to evaluate, in nursing settings, the strategies that have shown promise for changing behaviour among physicians (e.g., reminders and audit and feedback). Another issue is the choice of a single or multiple interventions to support the use of new knowledge in practice. Even if the use of multiple components intuitively appears logical for enhancing the strength of the intervention, it must be noted that it is extremely difficult to determine which components, if any, are effective. Experiences in the medical field further suggest that multifaceted interventions are no more effective than others (Grimshaw et al., 2006). This striking uncer-

tainty about the effectiveness of various implementation strategies underlines the need for innovative thinking and extensive intervention research.

Interrelated key elements in the advancement of implementation research involve finding ways to conduct and analyze the often complex interventions used and to understand how various contextual factors interact with the current intervention and affect the outcome variables of interest. "The greater the difficulty in defining what, exactly, are the 'active ingredients' of an intervention and how they relate to each other, the greater the likelihood you are dealing with a complex intervention" (Medical Research Council, 2000, p. 1). These conditions have caused authors to challenge the usefulness of randomized controlled trials (RCTs) in evaluating complex social interventions, such as guideline implementation. Walshe (2007), for instance, claims that in these kinds of studies there is too much variance in context, content, application, and outcomes for RCTs to yield valid results. I think he has a point, in that these circumstances might explain why the extensive research on guideline implementation in the medical field cannot provide recommendations on when to use a specific implementation strategy. Still, I consider the experimental design, and preferably the RCT, to be superior to other methods in assessing cause-and-effect relationships. A well-conducted RCT will generate the most accurate estimation of the effectiveness of an implementation intervention — that is, answering the question Does it work? However, to increase explanatory power and understand the generalizability of a specific intervention, the trial design must be completed with process evaluations and measurement of contextual factors — that is, answering the question Where does it work, and why? (Blackwood, 2006; Seers, 2007). In evaluating process and measurement of context, quantitative and qualitative methods should be used (e.g., individual interviews with key stakeholders, questionnaire surveys, observations, and focus groups with staff and/or patients). Extending an experimental study with such components increases the opportunities to illuminate the process of change and enhances the understanding of important ingredients in that process (Oakley, Strange, Bonnell, Allen, & Stephenson, 2006).

Most would agree that while there is a need for empirical studies to evaluate different approaches to the application of evidence-based practice in nursing, we still have to make greater use of the existing literature. A parallel to complete intervention studies with process evaluation is "extension" of the systematic review to what has been termed "realist review." Although systematic reviews can produce estimations of the effectiveness of different implementation strategies, it has been shown that effects vary greatly for the same intervention and that the systematic

review approach tells us little about this variation. The realist review has a different theoretical base from the systematic review. Its proponents claim that its results "combine theoretical understanding and empirical evidence, and focus on explaining the relationships between the context in which the intervention is applied, the mechanisms by which it works and the outcomes which are produced" (Pawson, Greenhalgh, Harvey, & Walshe, 2005, p. S21). This approach might have greater potential to provide useful information, especially when applied to the implementation literature in nursing, with its large number of descriptive and single-site studies. However, even the realist review requires studies of acceptable methodological quality, which has been shown to be a recurrent problem in nursing implementation studies. A realist review by a multinational research team is now underway, aimed at identifying the interventions and strategies that are effective in enabling evidence-informed health care (McCormack et al., 2007).

To conclude this discourse I would like to argue for the necessity of linking implementation studies with appropriate theory — or, rather, basing them on appropriate theory. The main argument for using theory is the need for a more comprehensive understanding of the multitude of factors at different levels that interact and determine whether and to what extent an implementation intervention results in change (Grol, Bosch, Hulscher, Eccles, & Wensing, 2007). In planning an intervention study, it is crucial that such factors and their potential interaction and effect be identified. Theories can help in systematically describing and deriving these factors, setting up testable hypotheses, and discussing outcomes of a study. Estabrooks, Thompson, Lovely, and Hofmeyer (2006) and Grol and colleagues provide useful reviews of theoretical perspectives for developing testable implementation interventions. In nursing, two theoretical frameworks are often used: Rogers's Diffusion of Innovations (Rogers, 2003), and Promoting Action on Research Implementation in Health Services (PARIHS) (Rycroft-Malone et al., 2002). These frameworks are general and comprehensive in character. Because individual learning and behavioural change in individuals are key ingredients in any change process, I think there is potential for more specific theories on such issues in implementation studies.

It is not obvious that we will immediately obtain successful results by using relevant theory, process evaluations, or the other ingredients I have proposed for a research agenda that is more directed to intervention studies. However, I am thoroughly convinced that we must change the current research orientation. We need to reverse the trend of a descriptive abundance and an evaluative dearth. This requires no less and no more than determined, multifaceted, and sustained work.

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