

Nursing research in nephrology: opportunities and challenges

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Abstract

Over a number of years, several studies have attempted to define research priorities in nephrology. Priorities developed in these studies fall into two general categories: technology or basic science questions, and more broad themes focusing on quality of life. Importantly, those studies that have elicited patient and carer input have consistently identified communication strategies, symptom management, and caregiver burden as areas for improvement. Nursing and allied health staff are particularly well equipped and positioned to research the important questions in these areas.

Keywords

Nursing, research, nephrology.

Introduction

In all likelihood, chronic diseases will be a major cause of morbidity, death and disease over this century (McQueen, 2007). The number of new cases of end-stage renal disease increased 167% between 1989 and 2009, and is projected to further increase over the next 20 years (AIHW, 2011). Clearly then, the need for research into both disease pathogenesis and treatment is as important as ever.

Part of the success of the *RSAJ* is that it has provided encouragement and opportunities to communicate the work of nurse investigators. Examples published in this journal have shown that nursing and allied health staff have a key role in both investigator- and pharmaceutical company-initiated clinical studies. Opportunities exist at every stage of the clinical research pathway, and it is perhaps opportune to review those.

The questions that matter

As a scientist in nephrology, I am frequently asked for research ideas. This seems in many ways a strange question, because my expertise lies in mechanisms more than outcomes. Nevertheless, it is, of course, a question asked by all of us working in health care. Arguably, therefore, the most useful approach is to canvass the opinions of a large range of individuals involved in nephrology. This has been done formally over a number of years, and if nothing else these studies remind me how important it is to step back and re-evaluate what the important questions are. In doing this, three key studies stand out:

In 1999, the American Nephrology Nurses Association (ANNA) used the Delphi technique to identify nursing research priorities.

The technique was a stepwise process of refining suggested topics. Ultimately, the investigators identified five priority areas: (1) nursing interventions to prevent vascular access infections; (2) nursing interventions to maintain vascular access patency; (3) educational needs of patients and families; (4) levels of nursing competence and the effect on patient outcomes; and (5) validation of nursing interventions to achieve patient outcomes (Lewis *et al.*, 1999).

Tong *et al.* (2008) importantly recognised that prioritisation of research agendas is traditionally driven by health professionals, with little input by consumers. To address this specifically, they used nine Australian patient focus groups to identify recurrent research topics, and reasons for their choices. Conducted in 2006, participants with chronic kidney disease (CKD) suggested seven research priorities: (1) prevention; (2) better access to and improvement in transplantation; (3) reduction in symptoms; (4) new technology; (5) psychosocial aspects of living with CKD; (6) whole body not organ-specialised care; and (7) improvement in dialysis and caregiver support. Reasoning was based on a number of motivations, including normalisation of life, altruism, economic efficiency, clinical outcomes and personal needs.

The above rationale was also incorporated in a study from the Canadian Kidney Knowledge Translation and Generation Network (CANN-NET) (CANN-NET, 2014). In 2012, a questionnaire was sent out to Canadians on dialysis, their care providers and the clinicians who look after them, asking them to share their ideas about the research that is required to meet their needs. Again, what was important about this study was that it involved patients and their carers, the rationale being that people

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on dialysis and those who care for them “live the disease”, and therefore have an important role in helping us understand what they identify as research priorities.

The top 10 research questions identified from the project were: (1) What is the best way to enhance communication between health care professionals and patients and to maximise patient participation in decision-making? (2) How do different dialysis modalities compare in terms of their impact on quality of life, mortality and patient acceptability? (3) What are the causes and effective treatment(s) of, and ways to prevent, itching in dialysis patients? (4) What is the best strategy to increase kidney transplantation? (5) What is the psychological and social impact of kidney failure on patients, their family, and other caregivers, and can this be reduced? (6) What are the best ways to promote heart health in dialysis patients? (7) For people with kidney failure, what is the impact of each of the dietary restrictions (sodium, potassium, phosphate) on important outcomes including quality of life? (8) What are the best ways to manage symptoms in people on or nearing dialysis including poor energy, nausea, cramping, and restless legs? (9) What are the causes and effective treatment(s) of depression in dialysis patients? and (10) What is the best vascular access for people on haemodialysis?

In summary, research priorities developed in the above studies fall into two general categories: technology or basic science questions, and more broad themes focusing on quality of life. Importantly, those studies that have elicited patient and carer input have consistently identified communication strategies, symptom management, and caregiver burden as areas for improvement. An inescapable conclusion is that nursing and allied health staff are particularly well equipped and positioned to research these questions.

Approaches and evidence

Nursing science is a relatively new discipline when considered in light of medical and basic science research, which date back to the 18th century (Heitkemper, 2007). As in nursing research in general, the bulk of nephrology research is descriptive in nature, but it need not be so. The point is that if we want to understand what strategies are working in changing practice to be more evidence-based, then we must test these strategies (Wallin, 2009). This will require hypotheses, randomisation, and statistics, all of which are at first daunting, but rapidly become second nature. In each case they are simply the way in which a scientist eliminates bias. It is these techniques that provide the evidence base to nephrology, and the path to both preventing and improving outcomes in our patients.

Publication

Sharing our results with a broader audience advances our knowledge, and potentially improves our clinical practice. Professional journals like *RSAJ*, and indeed all nephrology journals are valuable both academically and as tools of communication and learning. Specialist journals such as the *RSAJ* importantly also provide local context. The interaction

between primary, secondary, and tertiary health care providers, for instance, is vastly different, if not unique, in each country.

Translating best evidence into clinical practice

How this evidence is translated into clinical practice has always been complicated and perplexing (Grol & Grimshaw, 2003; Lenfant, 2003). The development of clinical care guidelines is now a major function of nephrology interest groups worldwide. Reviewing and providing weight to the published evidence is a key plank to developing these guidelines and highlights the importance of professional journals.

Nevertheless, implementation of guidelines is problematic with a number of publications highlighting poor uptake (Grol & Grimshaw, 2003; Lenfant, 2003). Again nursing staff have an important role to play here. Those strategies that work best are ones incorporating a multifaceted and interdisciplinary approach that involve a multiprofessional collaboration (Grol & Grimshaw, 2003). Finally, audit and assessment provide essential feedback (Grol & Grimshaw, 2003), and are in themselves a useful source of quality projects.

As the *RSAJ* celebrates its 10th anniversary, we are reminded how few new journals survive this milestone. Celebrating a decade of continuous publication is a credit to all involved. In 2014 the landscape of academic journals does not even resemble what it was in 2004, but many of the important problems in nephrology remain the same.

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