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Guest Editorial

Moving nursing research forward towards a stronger impact on health care practice?

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Nursing research has developed strongly and quickly during the last few decades. The number of scientific nursing journals has increased and many of these have increased their annual number of issues, which reflects a major increase in submitted papers from which to choose. In addition, nurse researchers publish more frequently in other specialised journals. A cursory look at the contents of an issue suggests that nursing research is developing rapidly in many countries.

An important question is how far this expansion in research has also produced knowledge for clinical practice which is relevant to the work of clinical nurses and has produced direct benefits for patients? Some might argue that all nursing research should have clinical implications. Whilst desirable, this is an unrealistic expectation of early studies in a research field. Most early studies do not lend themselves well to implementation in practice because they are descriptive and do not attempt to test new strategies or determine the effects of existing nursing interventions (Hallberg, 2006). This is also true for theoretical and interpretative research, which needs to be tested for applicability. Theory development, basic nursing research as well as epidemiological studies may not have immediate clinical implications although they may be needed to inform further studies.

Possible nursing interventions, developed on the basis of exploratory studies, need testing to ensure they are applicable to practice and will have the expected outcome. For instance, Arber's (2007) study of pain talk in hospice and palliative care settings reports important findings about the interaction between nurses and doctors, and the authors rightfully conclude that these have implications for further research about communications between specialist nurses and GPs about pain management. Communication between doctors and nurses about this issue will have implications for patients' pain management, although further studies would be needed to answer the question about what to do to improve their communication. As nurse researchers we need to be aware of the kind of knowledge we produce and what further studies are needed to be able to make recommendations for practice.

It is because of this that I am so pleased to have been given this opportunity to raise the profile of clinical research and highlight the need for more research that can inform practice. As guest editor of this special issue of the International Journal of Nursing Studies (IJNS), I hope to stimulate debate and discussion about the kind of research needed to inform nursing practice for the future. In this special issue I have collected papers which I hope will stimulate thought and discussions about the research designs and methods needed to produce knowledge applicable to practice. I might be accused of adopting a narrow perspective since I have restricted myself to studies and discussion papers that address the question of how to shape a knowledge base that produces findings applicable to nursing practice. I am not saying that we do not need other kinds of research, but I do think that nurse researchers like me need to reflect upon our priorities, on where we put our energy and resources, and that we should place more priority on studies which can legitimately make recommendations for practice. My point here is that all studies addressing clinical issues do not lend themselves to implementation of the findings in practice.

Sometimes it requires chains of studies with different designs to be able to make recommendations for practice. For instance, a thought provoking paper by Lee and Yom (2007) about the differences in nurses' and patients' perceptions of the quality of nursing care, expectations and performance raises questions rather than tells nurses what to do. What are, for example, the implications of patients and nurses having different perceptions of quality? Is it likely that patients and nurses would ever hold the same perceptions of what constitutes good quality? Does having the same perception of quality care mean that the care delivered is more likely to be of high quality? The study evokes questions that need to be addressed before any recommendations

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can be made for practice. But if we never address these questions, knowledge for practice cannot advance.

In this special issue of the IJNS, Mantzoukas (2009) presents a summary of the types of studies reported in the top 10 general scientific nursing journals between the years 2000 and 2006. An overwhelming number of studies were descriptive (both qualitative and quantitative studies), and very few reported outcomes in terms of the impact of nursing interventions on patients. Although Mantzoukas may have a point that the kind of studies that are considered to provide evidence for practice need to be developed and not too narrow, it also seems fair to say that we as researchers need to reflect on what we contribute to practice.

Although I think we could do more, I believe that some nursing research has enhanced clinical practice and in so doing has given priority to the perspectives and needs of patients and their families. One example of this is, in my view, the work of Astrid Norberg and co-workers in the field of dementia care. Norberg's studies contributed substantially to changing commonly held views of people with dementia. One of her key papers, first published in the IJNS in 1986 (Norberg et al., 1986, 2003), showed that people in the final stage of dementia reacted differently to music, touch and object presentation. It was one of the most cited papers in IJNS over the past 25 years (Norman, 2003), and as Norman points out the study was a milestone in the development of psychosocial interventions in dementia care.

Norberg's study was notable in several respects. It was experimental and, scientifically rigorous in identifying the reaction of people with dementias to the three sensory stimulation techniques. Also, the study introduced a data collection technique that was not commonly used at that time, namely video recording. Perhaps most important, however, was that the work both questioned the accepted view at the time that people with advanced dementia were in effect beyond the reach of human communication and also tested an intervention that demonstrated that this accepted view was wrong. The paper made a major contribution to a growing body of research which questioned the philosophical basis of dementia care and was to have such major implications for the care of dementia sufferers and their families. I started my professional work in the mid 1960s in dementia care, and looking back it seems like oceans between dementia care today and at that time. I like to think that nursing research made a major contribution to that change. A further lesson from Norberg's research for me is that it alerts nurse researchers today to be open to changes in the philosophies and discourse of health care and to locate their research within these discourses and in the context of previous work, to maximize its potential impact.

1. Systematic and other reviews

The fact that so much research has already been reported highlights the importance of systematic reviews and meta-analyses when possible, establishing the basis for further research. This goes also for fields in which previous research is scattered or sparse, since systematic reviews may form a platform for building more coherent research programs. In 1998, Droogan and Cullum followed colleagues in the field of medicine and were among the first in nursing to argue that systematic reviews are the most reliable and valid means of summarising the available research findings on clinical research and are therefore the foundations of evidence-based health care (Droogan and Cullum, 1998). However, over a decade later my impression is that many research reports are not built on a full review of the literature. This may be due, in part, to academic nursing journals' request for short papers that force the authors to provide brief introductions to their research questions, or it may be the influence of medical and scientific journals where brief papers are the norm. Whatever the reason the value of reviews that address well defined research areas and are conducted in a systematic manner cannot be underestimated. They are needed to provide guidelines or establish a basis for further research, in particular for testing the effects of different interventions for clinical problems.

Reviews, whilst always needing to be systematic in the attempt to draw together the research already carried out, can be conducted for different purposes and using different approaches. In this special issue, there are some examples of these different approaches. For instance, the scoping review by Griffiths et al. (2009) demonstrates that nursing research in the area of learning disabilities is extremely scattered and produces insufficient knowledge for practice. It is not a systematic review in the strict sense of the term. The research reviewed is not persistent in addressing a specific question or problem area, but rather marked by new topics that will contribute very little to the clinical practice. Such a review is helpful in shaping and inspiring research programs in the area. A further example is the discussion paper by Forbes (2009) which sets out criteria by which the quality of clinical research studies can be judged. The review of Cochrane systematic reviews of education and self-management by Coster and Norman (2009) is useful in at least three different ways. First patient self-management is increasingly important reflecting a change in the relationship between patients and health professionals, away from one which is paternalistic to one that places more responsibility with the patient. Secondly, it summarises the evidence for the effectiveness of education and patient self-management in relation to different patient problems, thereby generating knowledge for practice. Third it points to gaps in the knowledge base which need to be filled. Self-management is increasingly the dominant mode of health care practice of today. Empowerment strategies that improve patients' self-management such as motivational interviewing (Brodie et al., 2008), individual support or group support (Wilson et al., 2008) need to be evaluated for effectiveness not only in terms of health benefits, but also their costs.

2. Various methodological approaches

A methodological challenge of any review conducted systematically is dealing with studies which use varying research designs and methods. Nursing research is characterized by diverse methodological approaches and also by tensions between adherents to qualitative methods versus those who adhere to quantitative methods even though many, perhaps the majority, adopt a pragmatic stance and who draw upon a combination of methods to meet the demands of particular research questions.

Just as different research methods are appropriate to different questions, clinical reality is marked by diverse facets. Nurses have to deal with the reality of the individual, but they also need to have a broader perspective on the problem, medically as well as psychosocially. Thus, it is exciting to try to put together the findings from studies which use different methodological approaches in order to provide an in depth account of the clinical problem. Such reviews may for example be able to tell what to expect from the different interventions as well as about the mechanisms in the intervention or the variation in terms of outcome that might be expected. Such reviews may go under different names. Some refer to them as systematic reviews (Bee et al., 2008) and others as integrative reviews (Spenceley et al., 2008).

The paper on systematic mixed studies reviews (SMSR) in health care (Pluye et al., 2009) presents a scoring system for appraising the methodological quality of quantitative, qualitative and mixed methods research. This paper is innovative and will, I believe, be a valuable source of guidance for reviewers of the future. Pluye et al. points out that terms used to refer to this kind of systematic review have varied and therefore, we have to agree on a term to use as well as a system for evaluating the quality of papers that is fair to each research method in its own right. They suggest the term SMSR. I hope their paper will inspire nurse researchers to use the same term and the suggested scoring system in order to achieve coherent analyses and reports and to further the development of systematic reviews. The way I read the paper by Thorne (2009) on the role of qualitative research within an evidence-based context suggests to me that she is heading in the same direction as Pluye et al. (2009) although she mainly discusses the role of qualitative research in developing evidence-based knowledge and synthesising qualitative research studies.

I would like this special issue of the IJNS to help see off the old conflict in nursing research between qualitative and quantitative research and to confine this to our history. Both approaches have their merits and their limitations, and both types of research may generate both studies with limited if any value for practice and others which provide knowledge with immediate use for practice. The challenge lies rather in how we combine these approaches to make the most of the money available for research and the most of the research we do in terms of generating knowledge for clinical practice.

3. Translating research into practice

As researchers we all need to consider carefully whether or not the findings we report can be translated into practice or whether in fact further research is needed. It is too easy to assume that findings from a study will be replicated in the messy world of clinical practice. Instead of prematurely discussing the clinical implications of a study's findings, we should consider what else we need to know before we can advise a nurse on her clinical practice. For instance, there are lots of studies which show that people with a poor social network or little social support, poor socio-economic conditions or a limited ability to manage stress (measured through sense of coherence, hardiness, resilience and the like) do have poorer outcomes in terms of health and treatment effects when affected by diseases or health problems. This has been studied qualitatively through storytelling, narratives and open-ended interviews as well as quantitatively in research designs that compare scores on validated scales cross-sectionally or longitudinally. But there is much less research on developing and testing interventions and approaches in clinical practice that can support people's ability to cope with health problems and treatment, in particular those who currently benefit the least from health care interventions.

As nursing researchers we may like to think that what we decide to research is the same as what is needed in nursing practice. However, in my experience there are many other factors that determine what nursing researchers do, other than the needs of clinical practice. Lack of money for building up research programmes may also exercise an important influence on research methods as well as on research questions. Methodological experience may be another determinant, together with the accepted way of approaching research questions in the department within which the researcher is based. The traditions established by senior researchers or advisors may determine what younger researchers do, rather than what knowledge is needed to inform practice.

The kind of knowledge useful for practice needs to demonstrate that approaching a clinical problem in a certain way will, in fact, have the outcome that is desired, and preferably independent of the context in which it is applied. Also, it needs to demonstrate that the approach suggested is not harmful and that it is cost-effective in that it produces the desirable outcome at a price which is not more expensive than other equally effective methods. Nursing research also needs to shed light upon *current* practice, not just new ideas, to establish its effectiveness in producing desirable outcomes. In addition, we need research that provides us with an understanding of the mechanisms which may explain people's reactions to health problems, as well as the results of certain interventions. Such studies are valuable in helping us build theories that explain different phenomena involved in health and health care. So we need studies that lead to explanations, even though such studies may not directly inform clinical practice.

Moving nursing research towards a sharper focus on the outcome of different interventions, be they psychosocial, behavioural or physical interventions, requires critical reflection on the designs traditionally used to study effectiveness. The traditional approach is the randomised clinical trial (RCT), preferably blind, which in so many cases is not feasible in clinical nursing settings. The interventions tested for their effect also need to be applicable and affordable since health care is struggling with economic issues. Thus, studies of the kind reported by for instance Kim (2007) and Miller et al. (2007) are interesting because they contribute to knowledge about self-care management. The first study adopts an RCT design to evaluate the effect of a short message service through cell phones to promote patients' plasma glucose control. The other example investigates the feasibility of using an oral care diary for patients in receipt of chemotherapy, using a well known oral assessment.

One of the limitations of so many RCT studies is that even though the statistical conclusions may be valid for the population actually studied, external validity may be very limited because the inclusion criteria do not fit clinical reality. Also, whilst the RCT may shed light on the effect of a certain intervention, additional research perspectives are needed to answer other questions such as how the intervention is experienced. Qualitative methods applied within an experimental study may shed light on why an intervention is effective or why it is not. Certainly we must acknowledge that designs other than a true RCT are able to produce reliable and valid information for practice. For instance, in a study by Kang et al. (2008) evaluated the effects of a breastfeeding empowerment program using a non-equivalent control group in a non-synchronized design. The study supported the effectiveness of the program but because the intervention was complex it was not possible to establish which of the components caused the outcome. This is, however, a common problem in nursing research and is not easy to deal with. Intervention studies with repeated pre-test assessments followed by repeated post-test assessments have also the potential to produce results with reliable external validity (cf. Chen et al., 2008).

Implementing findings from studies across countries requires exploring the validity in different contexts. This in turn requires establishing the cross-cultural validity of the measures to be used in different cultural contexts (cf. Beckstead et al., 2008) as well as their applicability to the health care system of that country. Aitken et al. (2008) report on a study conducted in three countries in which the effectiveness of an RCT counselling and education intervention for reducing pre-hospital delay in patients with acute coronary syndromes was arrested. This paper reports on the strategies used to administer an international multicenter RCT. In particular, the authors discuss how to maintain consistency across sites. Another obstacle to implementing the findings may be that it is not quite clear what the intervention researched actually is. Conn et al. (2008) carried out an interesting analysis of 141 research papers drawn from 27 different journals published in 2005 to establish how well interventions tested in studies were described. This study found that the interventions were not described in sufficient detail to be replicated. This was particularly true of psychosocial, pedagogical or behavioural interventions.

It is refreshing to read that philosophers of science suggest that a study investigating the effects of an intervention can serve the purpose of discovery as well as that of justification (Persson and Sahlin, 2009). Thus, multi-method studies may sometimes be more useful than a strict RCT design, which looks only at the variables that concern the expected outcome and the mediating variables. Moreover, whilst it would be unethical to randomise obese children to a control group without any intervention, since their condition is detrimental to their health, obese children could serve as their own control group in a discontinuity regression analysis.

Complex interventions often prevent us from identifying which component of the intervention is vital in explaining changes in the individual. Perhaps we need to investigate each component separately or use several ''arms'' of a study to establish which components are effective. However, in many cases we may not be able to establish causal links within an intervention study, but only be able to state that the likely outcome would be this or that. From a practice perspective that may be good enough. The paper by Persson and Sahlin (2009) addresses the issues of intended, actual, assumed or examined effects which may be used to explore the underlying assumptions in an intervention and thus the conclusions that can be drawn. Analysis of interventions and the outcomes of these from a theoretical perspective, can contribute to theory development. Reviewing the literature, perhaps with a SMSR approach, may also be helpful in developing models that can be tested in clinical practice. It can also make the nurses' role clearer and thereby be helpful to nurses in practice. Droogan and Cullum (1998) point to the need to recognise that 'in the real world health care is delivered by multiprofessional and multidisciplinary collaboration' (p. 20).

Developing knowledge based on practice can be done in a step wise manner, a series of studies from descriptions, theory development, testing, exploring possible explanations, refining models or theories and testing them and implementing valid knowledge in practice. In particular, we need to learn more about the implementation process and about how to make it successful. Spenceley et al.'s (2008) review of the sources of knowledge nurses used to guide their practice found that peers or human resources to be the most common. Their review of the empirical research carried out has implications for knowledge utilization processes at the individual level. We need to research the system of care as well as the individual obstacles or promoters of the process of implementing evidence-based knowledge. Wallin (2009) provides an overview of strategies used in the implementation of evidence-based knowledge and the effects of

such strategies. It may be that whether a strategy is successful is determined not only by the strategy itself, but also by the context and the knowledge that is to be implemented. Wallin summarises what is needed in order to further this field of knowledge translation or implementation research. In particular, this field needs some clarification as well as definition of the components involved in successful implementation of knowledge into practice.

Moreover, to develop methods and our knowledge base we need to collaborate across countries. This is not an easy task, as highlighted in the paper by Suhonen et al. (2009). Even so, we need to accept this challenge not only for the reasons addressed in this paper, but also in order to understand more about the benefits or shortcomings of different political and health care systems.

4. Conclusions

Even though it is problematic to carry out research on interventions in clinical nursing care and usually the conclusions cannot explain causality, such studies are needed to advance clinical nursing knowledge. This is also true for research on implementing evidence for practice. One strength of nursing research may be the variety of methods applied and its involvement in clinical issues (Mantzoukas, 2009) although as yet little clinical research lends itself to immediate implementation in practice. We need to develop methods and designs that take into account discovery as well as justification and those that combine inductive and deductive approaches and so move closer to study designs that can inform practice. Systematic reviews in terms of meta-analysis, systematic mixed studies reviews as well as meta-synthesis, plays an important role in sorting, presenting and summarising research findings in a manner that moves research, as well as clinical practice forward.

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