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Guest Editorial

Challenges for future nursing research: Providing evidence for health-care practice

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In this editorial[1] I raise the question of whether nursing research, from a societal perspective, is needed and if so for what purpose and for the benefit of whom? Every now and then, at least in my native Sweden, a discussion starts about whether nursing research is mainly concerned with caring about the profession and not caring about the quality of health care or the knowledge needed for the care delivered. This may not be an ongoing discussion elsewhere in Europe. However, researchers from my experience may often have a different agenda than the consumers and providers. From my point of view, nursing research is highly important for health-care delivery and will be so even more in the future. Perhaps, however, we need to be more sensitive to those who are the primary beneficiaries of the knowledge we build from our research, in terms of the questions and the kind of knowledge they need, consumers as well as providers (Ross et al., 2004). My argument is that the expectations of nursing research from health and social care providers is that we should give them knowledge that is useful for practice and that can be translated into practice. This expectation, in my experience, has not been as explicit as it is today, and the issue of implementation and research about implementation of knowledge is hot, at least in my own country. Thus the challenge for we nurse researchers is to do research that provides firm evidence for practice and is useful for the consumers, and to be concerned about implementation, at least if we want external funding for our research.

- We need to be positioned to identify and be at the edge of the urgent research questions of tomorrow which are important for people's health and health care.
- This calls for attention to how we build up research programmes, rather than projects. Programmes that addresses a certain topic, domain or question bit by bit and stay on until knowledge that can inform practice is developed.
- Nursing research that can inform practice raises the question of design. Implementing findings from cross-sectional studies or descriptive studies actually requires us first to translate the findings into an intervention or implementation and systematically study the outcome of the intervention or implementation. Thereafter we have knowledge useful to practice. Also evaluating already ongoing practises for their outcomes and utility also provides useful knowledge.
- Building research with strong external validity requires us to have delineated the generalizability of the findings. According to Shadish et al. (2002) researchers often claim that findings from studies of a local nature are valid in a wider context than the context and sample allow. This is not specific to nursing research but to clinical research more generally and has implications for repeating the same study in different contexts.
- The need for multidisciplinary research is another issue. Health care and social service as well as medical treatment are not about professional development but about patients, their treatment, care and rehabilitation as we all are well a ware. Patients in my experience want to be approached from a holistic perspective and are not greatly concerned about which profession we represent.
- We need to discuss how we use our resources, money as well as workforce; this is our research capacity in

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terms of people at a junior or senior research level and, in addition, doctoral students.

To elaborate, there is widespread agreement I believe that research should be useful for health-care practice in the long term or the short term. This has implications for the questions raised and the research designs used. It is common practice to integrate ideas about the clinical implications of the research we have carried out when we write up our findings for publication in scientific journals. The question is, though; do these findings, for instance from descriptive, correlational studies, really lend themselves to conclusions about practice, however reasonable or logical it may seem to state the implications of the findings for practice. If I may challenge the editors of various nursing research journals, I would like to say that perhaps we should be more cautious about requiring or asking for clinical implication in publications where such conclusions actually cannot be drawn based on the design of the study. Rather I would like the nursing journals to ask us for more systematic studies about implementing findings from descriptive research, outcome research and intervention studies to systematically assess their effects. Nursing journal editors could help us to make a paradigm shift by being more cautious about publishing descriptive studies unless novel in terms of method or the subject under study. My guess is that the current trend in nursing research towards descriptive studies would soon shift since we university academics, in particular, are dependent on scientific publications to promote our careers.

To test my idea of the emphasis on descriptive studies I scanned two of the international nursing journals to explore the proportion of studies investigating the outcome of a treatment, nursing intervention or health-care delivery system using a design that allows for valid conclusions, or the proportion of studies with a quasi-experimental design. In the one journal, which published some 80 papers during 1 year, 12% were quasi-experimental and another 2% were concerned with the outcome of an intervention already in place, evaluating it for its effect. This can be compared with the proportion of studies using any kind of qualitative design, which was 23%. The other journal published about 130 papers during the same year. Of these, only 11% were quasi-experimental or experimental and some 4% reported evaluations of an intervention already in place. This should be compared with some 31% qualitative studies. Other published studies were mainly cross-sectional, often using self-report in various ways or standardized measures evaluating topics such as quality of life, patient satisfaction or the like. Thus it seems fair to say that we are not overly involved in research that may carry strong evidence for practice. I did not scrutinize the papers from these journals for quality and did not exclude any of them on quality or validity grounds. Also, I am painfully aware of that, we need to develop the ways we carry out quasi-experimental studies or action research so that external validity is guaranteed and so that the designs are adapted to the kind of knowledge needed for nursing care. This is a challenge to us and I believe nursing research is now mature enough to take on that challenge. Perhaps a group of nurse researcher worldwide could work on this task of methodological development.

Before I upset too many readers, I have to say that I am not critical of the use of qualitative research. I believe that nursing research has contributed immensely to putting the person in the foreground and to the understanding of the importance of people's lived experience which has, in my view, had consequences not only for research but also for the way people are approached and regarded in the health-care encounter. But in my view we need to strike a more equal balance between descriptive studies in general, qualitative studies and studies that really do inform practice, not loosing sight of the consumer's perspective (Nolan, 2005). Sometimes we do not need to go from descriptive to experimental studies in a certain area. We can go for the experimental studies directly because the knowledge is already out there and we do not need to repeat it over and over again. Qualitative studies do bring another kind of knowledge to the surface, and what we need to reflect on is how we combine designs to derive knowledge that helps us understand the phenomenon or the lived experience with designs that can answer questions about the effects of a certain intervention. Effects nowadays need to be studied also in the light of cost-effectiveness. Health-care providers will not consider any evidence that cannot tell something about cost-effectiveness, which calls for collaboration with health economists.

This leads me to the issue of multidisciplinary research. I believe we need to go for more multidisciplinary research rather than take a uni-professional perspective on a certain research topic or domain. To make my point I would like to use the example of understanding the problem of fatigue. In our research (Borglin et al., 2005), investigating health complaints in the elderly, we found that fatigue was quite common and also coincided with low quality of life. So I began to look out for research about fatigue. It is well known that fatigue is a common problem in cancer and cancer treatment, and has attracted quite a lot of interest, mainly using self-reported measures or questionnaires (Ahlberg et al., 2005). I found out that it is very common in Parkinson patients (Friedman and Chou, 2004), MS patients, in people who have suffered from a stroke (Westergren et al., 2001), in people who have heart failure (Franzén et al., 2006) and so on. The predominant way to approach this problem was by self-reports

of various kinds. The question is, however, whether we can go any further with yet more descriptive studies, with more self-reports, whatever theory we have about the causes of this extreme fatigue. A more promising approach might be for nurse researchers perhaps to get together with researchers with a biomedical background and expertise in physiology and various medical conditions associated with fatigue, to investigate the problem in combination with the use of self-reports and biomedical markers. To test my impression of a uni-disciplinary approach I did a search on Pub Med using the search terms "fatigue" and "nursing". I restricted my search to the years 2003–2005 and publications in English. The search gave 220 hits and I reviewed all the abstracts to see if they reported multidisciplinary research studies or investigated the effect of any intervention or evaluated the outcome of a specific health-care strategy to ease fatigue. It may be noteworthy that only 22 of these studies (10%) investigated either an intervention or the outcome of a health care or nursing method. Only a few of them were concerned with evaluation of treatment modalities or the outcome of new methods or strategies to reduce fatigue.

It was also interesting that all the studies tested interventions that had to do with rest and activity, exercise, social support, cognitive interventions or the like. Thus none of the studies took into account that fatigue might be due to biomedical factors. The main reason for this search for research to understand fatigue was, however, to explore the prevalence of multi-disciplinary research combining traditional nursing research issues with biomedical questions. Of these 220 abstracts only two papers concerned biomedical mechanisms together with patients' perceptions of fatigue. Both studies had to do with post-partum fatigue. In one-study variables such as prolactin, cortisol, melatonin, and secretory IGA and in the other study also inflammatory mechanisms were investigated. I am not suggesting that nurses should get into researching biological mechanisms. What I am suggesting is that the breakthrough might come from combining the perspectives of patients and understanding of biological mechanisms. We may also come closer to a break through if we focus on several diseases that carry fatigue as sign, rather than focusing on single disease at the time. To do so requires multidisciplinary research.

It seems to me that we need to recognize that the problem of fatigue is not well understood from a biomedical perspective and that we as nurse researchers are in danger of acting in a similar way to some medical researchers. They may neglect the fact that people's perceptions and interpretations have implications for their reactions and actions. Similarly, nurse researchers may neglect the body and the body function from a biomedical perspective. Fatigue, for example, is not in the main stream of medical research and thus the likelihood that medical researchers will pick up and focus a problem of this kind is low. I believe that we, nurse researchers, need to take the initiative and invite them, to collaborate in our research and together use a research approach that is more likely to explain the mechanisms behind this problem, and thus give us options for treatment. I doubt that any more self-report studies will help us prevent or treat this problem which has major implications for individuals as shown by Whitehead in this issue (Whitehead, 2006). I have used fatigue as an example of the need for multidisciplinary research and an area in which we should take the initiative to invite other researchers to collaborate and bring their knowledge and perspective into the research. Fatigue is but one example, which would benefit from a multi-disciplinary research approach. I am sure there are many more problems out there, which would illustrate the value of incorporating issues in nursing research but also involving researchers with a social science background in our research.

The research agenda I am talking about is much more challenging than just going out there doing a cross-sectional study. Thus we have to reflect on how we build up research. Instructive in this regard is the report on nursing research (Nursing and Caring Sciences, Evaluation report, 2003) commissioned by the Academy of Finland (2003), carried out under the leadership of Professor Alison Tierney, which is well worth reading in that it could be a description of many university nursing departments and perhaps some other departments as well. The main lessons for me from Tierney's report is that characteristics of research regarded as being weak in terms of knowledge development often are:

- Too fragmented with small groups and dominated by persons at a junior or doctoral level.
- Researching small local projects and one or two shot designs rather than a persistent ongoing research programme that ends up in cumulative knowledge providing evidence for practice.
- Carried out in one context rather than several sites and thus not being able to ascertain whether the results are dependent on the context under study or generalizable to a wider context.

These conclusions were further supported when I performed an investigation on ongoing nursing research for the Swedish government (Hallberg, 2003). Most of the departments had far too many ongoing projects taking into account the number of senior researchers available or people with a Ph.D. degree. Fragmented research dominated by small projects and not part of long-standing programmes has very limited potential to contribute to firm knowledge that can inform practice in a convincing manner. We need to develop research

programmes that address a domain or an area and where we use different designs and multi-methods and stay on until we reach a situation where we can explain as well as intervene effectively to reduce or alter the problems under study. This also means moving from theories to empirical investigations and from empirical investigations to theories.

The programmatic approach is far more expensive and requires more 'methodological muscles'. This in turn means that we have to be careful about how we deploy experienced researchers, who are our most valuable resource. The best arrangement in my experience is for senior and junior researchers together with doctoral students to work on the programme as members of a team. Thus the freedom of choice for doctoral students as well as for junior researchers must necessarily be restricted. Too many doctoral students and too many inexperienced researchers on any research team make it fragile and limit its ability to deliver research to a high scientific standard as well as develop research methodology. It may be more efficient for small university nursing departments to develop only one or two research programmes, especially if experienced researchers are in short supply, rather than be too broad in its ambitions and end up not being able to make a real contribution to knowledge building. This means limiting the choices for some, doctoral students as well as post-docs, and turning down others not fitting into our programme.

Finally, I want to examine my claim at the start of this editorial that nursing research can really make a positive contribution to society through addressing social challenges raised by changes in the prevalence of health-care problems. The top 10 leading causes for disease burden are expected to change from having had infectious diseases at the top to having lifestyle-related diseases at the top in the future (Kinsella and Velkoff, 2001).

However, new diseases emerge. The forecast that lifestyle-related diseases like coronary disease, diabetes or overweight will be the predominant causes of death and functional limitations may not be true. Diseases like AIDS, SARS, and the Avian influenza seem to raise new challenges for society as well as for nursing research. These new diseases certainly indicate that diseases nowadays are global phenomena and that new problems may be transported around the world rapidly. In addition, poverty, and children being abandoned and abused as well as people disfavoured for a lot of other reasons will continue be problems that societies have not dealt with successfully. Indeed, it seems to me that some of these problems are getting worse.

However, a challenge for nursing research is that more people may live longer with one or more chronic disease and will survive from conditions from which they previously would have died. This may be the paradox of the development of successful treatments and applies in particular to lifestyle-related diseases. Although the survival rate from these and other diseases has improved greatly and treatments of various types can be applied to fragile people and to who are aged, most of them may not recover fully.

Another challenge for society, and one where nursing research can play a major role, is that of global ageing, which in most countries is a very rapid process. This process of global aging is faster in the developing countries than it has been in the developed countries. For instance, it took 115 years for the population 65 years of age or older in France to increase from 7% to 14% whilst it is estimated to take only 27 years in China (Kinsella and Velkoff, 2001). The problem with these rapid demographic changes is perhaps that it gives the country no time to adapt to a new composition of the population and what is required because of that. The main reason for these demographic changes is the decreasing fertility rate (Bongaarts and Bulatao, 2000). However, increased life expectancy contributes also to this global ageing. For society an urgent question is what we gain from living longer. For a period, I believe researchers and politicians expected the future scenario to be compression of morbidity or at least postponement of it. However, what we may be facing is rather expansion of morbidity, which in addition to lifestyle-related diseases may mean that more people will live longer at a high age with diseases and functional limitations. Thus there will be plenty of challenges for nursing research and for us to contribute to the health and well being of people, young as well as old.

In summary, nursing research has developed immensely during the last few decades and in my view nursing research is now firmly established in many countries, worldwide and rapidly developing in other countries. However we do need to discuss and reflect upon how we can develop it further to really make a case in practice, and to do so it is my firm believe that we need to move away from too much descriptive research into research designs that really have something to say to practice, that translates the findings from these descriptions into practice. We also need to build programmes rather than carrying on with projects, and in these programmes we need a healthy composition of highly experienced researchers and junior researchers as well as doctoral students, and say 'no thank you' to those wanting to do other things. We need to strengthen collaboration within countries as well as across countries. Doing so, I believe we will make a difference when it comes to health-care delivery as well as the interventions used in the care of people. We need to take the next step and contribute to a new generation of nursing research with great impact on practice, providing knowledge that our consumers, patients as well as providers cannot resist.

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