

### Editorial

## Taking nursing research further, how and what to do

Health care practice is only as strong as its weakest link; the reference here being to the chain of scientific knowledge, available and at such a level that it is ready to be implemented in practice. It is well known fact that the provision of health care and also social service, is carried out by staff from different disciplines. While the work is not always carried out in teams it is well known that successful treatment and service are both dependent on contributions from more than one discipline. Thus providing evidence-based practice is dependent on each discipline having access to and basing their actions on knowledge that has been scrutinized and judged to be currently the best available evidence stemming from research and practice. Preferably, the knowledge should also have been tested in implementation studies. The discipline of medicine has a long tradition of developing scientifically sound knowledge and of developing ways to review scientific reports thoroughly before implementing new knowledge. It also has a tradition of discarding methods that do not stand up to scientific review. Thus, medical practice is continuously moving forward, implementing new knowledge, and discarding old methods. Such a tradition of researching practice or questioning methods and approaches already in place does not apply to the scientific base for nursing care. Thus the knowledge base is not as robust and solid in the sense of being scientifically proven. Looking at this from a patient perspective the chain of care, based on the contribution of different disciplines, becomes generally weaker in terms of providing evidence-based practice. This is not unique to nursing care; it also holds true for other disciplines participating in providing health care and social service. However, as the main contributors in most healthcare situations are doctors and nurses the knowledge base of nursing is extremely important in the provision of evidence-based practice. This in turn means that rigorous research must

be carried out.

Having said this it would be unfair not to recognize and commend nurse researchers on the very rapid development in carrying out and reporting research relevant to nursing care. This rapid development is reflected in the increasing number of scientific nursing journals and also in the given origins of the authors, which indicate that it is also widespread. Methodological development has also been rapid and specific areas, such as implementation science, have helped to guide practice (1, 2). Thus, there are now nurse researchers worldwide, ready to consider how to move nursing research forward and make it even more efficient in providing knowledge good enough to be implemented in practice. To do this, nurses in practice and those engaged in research need to reflect on the requirements that ought to be met by the research reported, particularly when it is meant to be implemented in practice. This is important also for education and in particular teachers play an important role in teaching evidence based practice (3).

According to Hallberg (4) research that is supposed to be implemented in practice has to establish the effect of an intervention, whether it is effective and safe, and also perhaps when and where it is to be implemented. The effect of an intervention refers to whether it is actually capable of producing the desired result, that it is generally better than whatever is already in place. The effectiveness that needs to be established concerns determining the extent to which the intervention should be applied, the effort involved in its implementation and whether the costs incurred are justified. Thus it is not enough to establish that an intervention works, it also has to be shown that the outcome of the intervention is feasible, and sufficient in terms of producing a clinically significant effect, is cost effective in that the resources needed are reasonable and affordable in terms of the time required for implementation,

general cost or other resources. Richards et al. (5) suggested that the minimal clinically important difference between the control condition and the intervention needs to be established. Thus, effectiveness should tell the provider about costs and outcomes, expressed in numerical terms, allowing the health-care providers to make decisions about whether implementing the new intervention or method would be worthwhile, in addition to establishing that the new method involves no hazardous risk to patient or staff. The provider also needs to consider what the new method is replacing, and under what circumstances and when the new method should be used. It is important to recognize that such comprehensive knowledge cannot be developed in one single project, thus pointing nursing research in the direction of building research programs rather than discrete projects. Researchers also need to recognize the importance of collaboration with the stakeholders, and in particular, communicating with them in a way that makes the knowledge understandable and translatable (6).

Programmatic research means researching a problem area rather than trying to answer a specific research question. It means moving within the problem area between various research questions to gain a deeper understanding of how the phenomenon operates and how other mechanisms may influence the phenomenon. The ultimate goal is to get an idea of how to intervene/manipulate the phenomenon in order to achieve an outcome that is better than leaving nature to take its course. Thus the problem-solving continues within the area until an intervention study shows how the outcome can be improved. In the process of achieving this different research questions, designs and methods will be used to deconstruct the phenomenon and related contributors. For instance, there is currently a lot of research showing that a person's social network plays a significant role in the outcome of care and treatment of challenging diseases, particularly concerning quality of life. It is also well known that it plays a role in general health and wellbeing, not only when the individual is confronted with a severe disease. However, studies showing how the positive impact of the social network can be maximized are less well known. Thus, the last piece in the jigsaw is not yet available, it requires an intervention study that tests different approaches. The opposite of building

research programs is taking up and moving between various unrelated projects. This is, in fact, a waste of time and resources and will certainly not be able to solve the problem up to the point where it is known how to intervene to succeed in improving nursing care.

In the research process that leads to the formulation of a tentative theory of how to intervene different designs and methods are used. It is a process that moves between research designs, mainly those addressing discovery and those addressing evaluation, until finally the effectiveness of the intervention is established and then the process reaches the stage of implementation. It is important that researchers also involve themselves in the implementation stage (6). Descriptive studies, cross-sectional studies, epidemiological studies, and qualitative studies are all effective in discovering relationships, probable contributing factors, going in depth into processes etc. For instance, qualitative studies as well as large cross-sectional and comparative studies are excellent for understanding how social networks operate, under what conditions and when they are detrimental to or facilitate health. However, these designs are not as good at addressing effect and effectiveness and do not show the way in which to intervene in order to improve the outcome compared to whatever is already in place. Hallberg (7, 8) explored the distribution of studies reported in two nursing journals regarding design and found that only a small proportion (11%) evaluated the effect of an intervention. This contributed to the decision of the European Academy of Nursing Science to give a stipend to a person interested in looking more closely into the designs used in the ten most highly ranked nursing journals. Unfortunately, the results largely agreed with those from the initial exploration (9). Later on Richards et al. (10) repeated this from a European perspective and found similar results. As different designs are able to answer different research questions it is fair to conclude that much nursing research is not yet at the stage when it can respond to questions which establish that a specific intervention has the desired or expected effects. Thus, nursing research needs to move beyond the stage of studies which mainly address discovery and not evaluation.

The stage of evaluation requires some sort of

experimental design but this does not always mean conducting a traditional randomized controlled study. There are several different ways to study the effect of a method or technique where it has not yet been confirmed in a rigorous study. It is also important to bear in mind that many interventions in nursing are either complex in them-selves or are to be tested in a complex situation (11). The process of developing and evaluating a complex intervention and how to study its effect was addressed by the Medical Research Council (12).

The process is described as stages of development: feasibility and piloting, evaluation and implementation. These stages are not meant to be understood as taking place in a linear process but rather as a movement between them until the effect of the intervention are established and ready to be put into practice. This closely resembles building a research program. It is not possible to arrive at the evaluation without having a substantial amount of knowledge based on studies that address issues related to discovery rather than evaluation itself. This process of developing and testing complex interventions has been further elaborated by Richards and Hallberg (13) in a text book about complex interventions. Borglin (14) in one of the chapters addresses how to combine qualitative and quantitative methods in developing and testing an intervention. Other chapters address how to evaluate not only the outcome but also the process of an intervention is addressed; a topic that requires a combination of qualitative and quantitative methods.

Nursing research is an important contributor to the evidence base needed in health care and social service and the development has been impressive. Now is the time to reflect on what is and is not being done. In my view we need to focus and concentrate; develop and research programs, not single unrelated projects; collaborate across professional and national borders; and in particular to continue researching a clinical problem until it is possible to change the outcome in a way that benefits the patients, the organization and the staff.

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