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Chapter

1 Research and Nursing Practice

OPENING THOUGHT

Research without practice is like building castles in the air. Practice without research is building castles on slippery grounds.

Introduction

This introductory chapter will examine the sources of knowledge for practice, and the meaning of, and rationale for nursing research. The role of nurses in research and the relationship between research and practice will be explored. Finally a brief overview of the development of nursing research worldwide will be offered.

Sources of knowledge for nursing practice

Much has been written about the variety of sources of knowledge from which practitioners draw. Of these the main ones are tradition, intuition, experience and research.

Traditional knowledge

The bulk of our knowledge has been accumulated over centuries and passed down to us through literature, art, music, oral history and other such media. Traditional nursing knowledge is learnt mainly from books and journals, by word of mouth and by observing the practice of others. Much traditional practice takes the form of rituals. For example, it may be tradition in some hospitals that patients are routinely shaved before an operation. This ritual is performed consistently with little thought to the rationale behind it. Walsh and Ford (1990) explain:

> Ritual action implies carrying out a task without thinking it through in a problem-solving, logical way. The nurse does something because this is the way it has always been done. Perhaps actions have become enshrined in the holy

> tablets of stone known as the procedure book, or just: 'This is the way Sister likes it done'. Either way, the nurse does not have to think about the problem and work out an individual solution; the action is ritual.

O'Brien and Davison (1994), referring to the routine taking of blood pressure 'at fixed and pre-determined times unrelated to the clinical status of the individual patients', suggest what such practices mean to practitioners:

> Once established, such rituals readily became part of the nursing culture and provided comfort and certainty to nurses in their daily work. It is not surprising that nurses are reluctant to challenge cherished and established approaches to practice, especially when the alternatives demand individualised considerations, notions of appropriate clinical decision making and professional accountability.

Traditions are important not only in passing down knowledge, but also in giving groups in society a sense of identity, belonging and pride. Through socialisation, we learn the culture of those who have gone before us. Similarly, traditional nursing knowledge and practice are learnt by novice nurses through the process of socialisation in educational institutions and clinical areas. Much of this traditional knowledge and many ritual practices are the outcomes of sound reasoning. Today's new knowledge and practices will likewise eventually become traditional. The term 'traditional' is sometimes used in a negative sense, meaning backward, outdated or unprogressive. Knowledge in itself is harmless; it is the use people make of it which can be harmful or beneficial. It should neither be rejected too quickly nor clung to rigidly if we are to benefit from the experiences of our predecessors and continue to make progress.

Biley and Wright (1997) argue that there is much to be said in defence of routine and rituals in nursing and health care. In particular they suggest that rituals are 'in some way a part of healing, that they have some positive action, ritualistic symbolism, latent function and meaning for the patient and the nurse'. The danger with rituals, however, is when the rationale for their practice is long forgotten and never questioned.

Intuition

Intuition by its very nature is not easy to define. Intuition is a form of knowing and behaving not apparently based on rational reasoning. The use of intuition in nursing is only beginning to attract nurse researchers, so not much is known about 'how' nurses come to know there is something 'wrong' or whether they have a 'sixth' sense that tells them what to do. According to Kenny (1994), nurses use empathetic intuition in their daily practice:

> This type of intuitive thinking often occurs within the context of a nursing situation, and feeling, rather than conscious thinking, seems to predominate. Nurses know that there is something wrong but cannot explain what it is.

Intuition involves the use of all human senses such as touch, smell, hearing, sight and even taste as well as previous experience (in the form of tacit knowledge) to assess, and react to, a situation. It happens in ways which seem to be beyond comprehension. McCutcheon and Pincombe (2001) studied nurses' understanding of intuition, their perceptions of their use of intuition, and assessed the impact of intuition on nursing practice. They found that intuition is the result of complex interaction between a number of factors including knowledge, experience, expertise, personality and environment.

Despite the recognition that intuition is an important 'tool' in the human repertoire of knowing, concern has been raised regarding the 'process of apprehension and action without apparent reason' (Aggleton and Chalmers, 1986). Even the strongest intuition is sometimes proved false when put to an empirical test (Polgar and Thomas, 1991). In scientific terms, that which cannot be researched seems to be less reliable than that which can be empirically observed.

Experience and reflective practice

Nurses and midwives base their practice on their own experience and on the experience of others. A study by Luker and Kenrick (1992) of 47 community nurses from four district health authorities in Britain showed that:

> The effects of past experience and situational variables were identified by all the nurses as having an important impact on the decision-making process, and both these influences were deemed to be practice-based knowledge, with experience having 82% (n = 39) agreement and the situational context having 76% (n = 36) agreement. Another factor which all nurses identified as being an important source of influence was discussions with nurse colleagues, described as experiential knowledge by 82% (n = 39) of respondents.

Mander (1992) interviewed 40 midwives and found that 'knowledge derived from their occupational experience was of overwhelming significance' to them. In a recent study by Thompson et al. (2001) on 'the accessibility of research-based knowledge for nurses in the United Kingdom acute care settings', it was reported that the most common source of information for reducing clinical uncertainty was their colleagues' experience.

Experience is a useful way of learning. There is a wealth of untapped knowledge embedded in the practice and 'know-how' of expert nurse clinicians (Benner, 1984). It is also reckoned that what we learn by experience is more enduring than what we are taught. However, our experience is in itself rather narrow. For example, in treating depression, a nurse may use one or two approaches. While the experience obtained is invaluable, she will be unfamiliar with other treatments and may either be reluctant to try them or may reject them out of hand.

There is also a degree of trial and error when learning by experience. While

this may be inevitable in a few cases, there is, by and large, a risk of reinventing the wheel and a greater risk of unsafe practice. Experience is therefore an important source of nursing knowledge, but relying solely on it and overstating its importance can be detrimental to nursing practice.

One way to use one's experience to improve practice is through 'reflective practice'. There is confusion as to what reflective practice is and how it can be implemented (Mackintosh, 1998) although much has been written about it. Reflective practice requires practitioners to think though the process of decision making which leads to particular actions. The two types of reflective practice which are generally referred to are 'reflection-on-action' and 'reflection-in-action' (Schon, 1987). The former is a retrospective 'analysis' of an action which has already taken place, while the latter involves reflecting while the action is taking place.

Reflective practice is a learning process designed to gain insight into one's own practice with the intention of improving it. Now and then we must stop and consider what we do, why and how we do it and to what effect, otherwise we turn what we do into thoughtless routines. For progress to take place, we must ask if we are doing the right things and if there are alternative ways to make things better. Stuart (1998), referring to midwifery practice, explains that routinisation 'leads to unthinking, unhelpful care-giving, with little possibility of the midwife learning from experience'. According to Rolfe (2001), in order to become 'knowledge generators', practitioners can use reflective practice 'to uncover the rich store of experiential knowledge that lies buried within their own practice'.

Reflective practice is not without its problems and limitations. Mackintosh (1998) divides the problems into three main categories: the process by which reflection takes place (Burnard, 1995), the ability of individuals to reflect in a meaningful way (Aitkens and Murphy, 1993; Richardson and Maltby, 1995; Waterworth, 1995); and the benefits that the process of reflection may have for nursing practice (Burnard, 1995).

Reflective practice assumes that the practitioner is capable of reflecting in a meaningful way on his or her decisions leading to a particular action, despite the acknowledgement that the rationale for action can be intuitive and difficult to verbalise. It is also believed that we can examine our prejudices which can underpin our practice. Yet people are generally reluctant to admit their prejudices, many of which they may not be conscious of. The process of group reflection can be a daunting and threatening experience with ethical and political implications. The use of diaries and journals for reflective purposes has been criticised by Mackintosh (1998) as giving rise to issues of confidentiality. Journals and diaries also have the potential to identify bad practices which the reflective practitioner may not be in a position to address, thereby leading to frustration and low morale.

There is a lack of empirical evidence into the outcomes of reflective practice (Paget, 2001). Hannigan (2001) calls for research to generate answers to questions such, as 'How does reflection assist in the development of more effective practice?'

Reflection as a concept to learn about our actions and about ourselves has much to commend. Despite its problems and limitations, it should not be rejected 'out of hand', nor should it be the only strategy for developing practice. It must be recognised that all methods of generating knowledge have limitations and closing our minds to other methods can be unproductive and often dangerous.

Reflective practice has the potential to raise questions which can thereafter be explored by other means, including research. In Paget's (2001) study of practitioners' views of how reflective practice has influenced their clinical practice, some of the respondents reported that reflective practice encouraged the use of research findings in their practice.

Research

Research, in contrast to tradition, intuition and reflective practice, is a systematic way of knowing and lays bare its methods for all to see. Researchers collect and analyse data systematically and rigorously, and this process is described to others by means of oral and/or written presentation. Research findings by themselves are not solutions to problems. They provide new insight into phenomena or add to, confirm or reject what is already known. Decisions still have to be taken about whether they should be used or not, and how.

One may argue that, by using common sense, nurses can take the right decisions. However, they still need relevant and valid information in order to do so. What may seem simple and straightforward is not necessarily so. For example, in many developing countries babies suffering from diarrhoea are not given fluids because it is believed that this will aggravate the situation. To the parents, it makes sense that in order to stop the baby from passing 'watery' faeces, they must stop the administration of fluids. In doing this, the baby is put at risk of dying from dehydration. Jackson (1994) recalls that in midwifery practice, 'it used to be common sense to give an enema to prevent soiling during delivery until Romney and Gordon (1981) published their research which showed that this procedure was not necessary'.

One of the important factors in decision making is the availability of relevant and up-to-date information. Traditional knowledge, although an important source of information, needs to be updated. What was relevant a decade ago may not be so now, as illustrated by Jackson (1994):

> Many of the observations that we make on pregnant women today were probably implemented when the health of the pregnant population was much less robust than it is today. In many instances, the pregnant woman would have been less than well and this probably influenced the way she was cared for.

Research has the potential to provide up-to-date information that may facilitate decision making. The perception of research data as superior to other forms of

knowledge is not purely a matter of personal preference, but is dependent on the quality of the research itself. Traditional knowledge may have suited a world in which 'authority' was not questioned, people did what they were told and things were right because someone 'important' said so. We now live in an age when most clients are no longer passive recipients of services and those who hold the purse strings require business plans for the allocation and use of funds. The need to justify one's practice is greater now than it has ever been.

Using more than one source of knowledge

By separating the sources of knowledge for the sake of explanation, the impression may be given that practitioners use one source at the exclusion of others. In practice, nurses and other practitioners use a combination of these, consciously and unconsciously, depending on what their interventions consist of. Referring to the lack of consensus about what kind of knowledge is at work in the actions of social workers, Nygren and Blom (2001) ask:

> What is the role of theoretical knowledge in the moment of action, when a child is separated from its parents, when a dialogue is opened with a drug abuser, or when the client is told how much money she or he will get? To what extent is it a question of personal talent, creativity or charisma that is crucial to what will happen? Is knowledge applied in a prescriptive or instrumental way, or does it take the shape of a 'mass' or a matrix of knowledge – a more or less conscious background against which social workers reflect their sensory impressions.

Berragan (1998) echoes the same thoughts in pointing out that the knowledge from a variety of sources which nurses draw upon has 'something to offer to holistic nursing practice'. However, it must be acknowledged that there can be potential conflict when knowledge drawn from various sources is different and contradictory.

The meaning of nursing research

Nursing research is a broad term for all research into nursing practice and issues. It aims to provide insights into, and understanding of, nursing practice, its effects on patients and their carers and on the use of resources. Other areas of nursing research include the education and training of nurses, the organisation and delivery of services, the conditions in which nurses work, their influence on the work environment as well as the effects of work on themselves.

Definitions of nursing research are difficult to find mainly because of the lack of consensus in the definition of nursing and because nurses' roles are constantly evolving and expanding in order to meet new demands. Often the definition of

nursing research is implicit in the goals of nursing organisations. For example, the National Institute of Nursing Research (NINR) in the United States describes the type of research it supports as 'the care of individuals across the life span – from management of patients during illness and recovery to the reduction of risks for disease and disability, the promotion of healthy lifestyles, promoting quality of life in those with chronic illness, and care for individuals at the end of life' (National Institute of Nursing Research, 2004). The NINR goes on to explain that nursing research includes families within a context and involves clinical care in a variety of settings including community and home in addition to more traditional health care sites.

Health care is delivered not by nurses only but by multi-professional teams whose aim is to provide the best possible care for patients and their families. It follows then that multi-disciplinary research should be an approach of choice. Yet there are boundaries around the areas that each professional group deals with, and although these areas can overlap, health professionals generally are aware of what constitutes their domain of practice. There are aspects of care which are entirely or mostly delivered by nurses, and it is legitimate that nurses seek to develop their practice with the use of research. Both multi-disciplinary and uni-disciplinary research are important and one should not be developed at the expense of the other.

One can ask if nursing research should be carried out by nurses only. In theory it may not seem important that research is 'produced by members of the professions to whose practice it is directly or indirectly relevant' (Higher Education Funding Council for England [HEFCE], 2001). In practice it would be odd if members of these professions did not engage in researching their practice. Clinically relevant questions can be developed mainly by clinicians themselves.

Practitioners are also well placed to decide on priority areas for research. According to the Department of Health (DoH) (2000), there are 'two principal dimensions to influencing the research and development agenda: ensuring that important areas of research about nursing receive appropriate priority; and ensuring that general priority setting benefits from a nursing perspective'. The HEFCE (2001) explains that because it 'recognised the importance of maintaining healthy links between research, practice and teaching, it would be concerned if entire sub-fields became dominated by researchers from outside the professions'.

Nursing research uses designs and methods mainly from the natural and the social sciences, since nursing is concerned with the physical, psychological, social, environmental and spiritual aspects of patients and their carers. In return, nursing also provides fertile grounds for testing the theories and methods of these sciences. Nursing research is eclectic (uses a variety of methods and approaches) and sometimes modifies these methods to suit its own ends. In doing so nursing research further develops these approaches and methods, and often gives them particular 'slants' or interpretations more suited to the context

and the reality of nursing practice. Thus nursing research makes a unique contribution to the development of approaches and methods for the study of its core issues.

Rationale for nursing research

Nurses are the largest professional group among health care workers worldwide. In the UK alone nurses, midwives and health visitors represent the largest workforce within the National Health Service (NHS), consuming 70 per cent of the NHS wage bill and 40 per cent of the NHS budget (Rafferty et al., 2000). How such a workforce fulfils the health service agenda and what use they make of such a sizeable budget should be of concern to those responsible for the health of the population, to nurses and to society itself. Nurses are the health professionals who have most person-to-person contact with patients. They carry out thousands of interventions with patients and their carers, and their decisions and actions affect the lives of whole populations. It makes sense, therefore, that nursing practice should be based on sound evidence. According to the American Nurses Association (2003), research-based practice is essential if the nursing profession is to meet its mandate to society.

If what nurses do is important, then it needs to be done well. To ensure that nursing practice is efficient and effective both from patients' and nurses' perspectives, it has to be questioned and, where necessary, improved. Research is one of the main tools available to question practice and seek answers. Aristotle differentiated between two types of knowledge: 'know-how' and 'know-why' (Laudan, 1996). Put simply, 'know-how' is the knowledge which the craftsman possesses as, for example, when a shipbuilder knows that wood, when properly sealed, floats (Laudan, 1996). 'Know-why' would require him to know the principle by which wood floats over water (buoyancy). 'Know-why' knowledge is mainly generated by research, both basic and applied. Basic research involves answering general questions such as, for example, why, and in which circumstances, do people conform? This type of knowledge can be used to understand why patients conform. Applied research focuses on a specific question in an area of practice: for example, why do patients with diabetes comply (or not) with professional advice?

'Know-how' knowledge is necessary but not enough for progress. This type of knowledge involves learning by 'trial and error', which can be costly and time-consuming. If practitioners are reasonably satisfied with their work it could lead to a tendency to leave things as they are, thus maintaining the status quo. 'Know-why' knowledge, on the other hand, can be divorced from practice. This is why this type of knowledge needs to be generated in collaboration with practitioners, otherwise it could remain in 'ivory towers'. Together, 'know-how' and 'know-why' knowledge can provide the knowledge for the enhancement of nursing practice.

Another reason for using research to generate knowledge for nursing practice is to contribute towards the development of nursing as a profession. The accumulation of knowledge on different aspects of nursing constitutes a 'body of knowledge' that nurses and others can draw upon and contribute to. This body of knowledge is the sum total of nursing knowledge (theories, research findings, reflections on practice, and so forth) contained mainly in books, journals, reports, theses and other audiovisual forms. The progress made in the creation of nursing's body of knowledge can be gauged by the availability of books on different aspects of nursing and the number of nursing journals currently on the market compared with the early 1970s, when the number of books on nursing in the UK probably amounted to only a handful. The creation of a body of knowledge distinct to nursing is an important step in establishing nursing as a profession. One of the hallmarks of a profession is the possession of a body of knowledge based on research, and in the progress of nursing towards true professional status, the acquisition of a research basis for practice is essential (Royal College of Nursing) [RCN, 1982]. Nursing relies heavily on knowledge from other disciplines, such as biology, chemistry, sociology and psychology. While nursing will continue to draw upon, and contribute to, knowledge from these other disciplines, it is imperative that it continues to create a body of knowledge to inform its own practice.

The status of nursing as a profession will be enhanced when other professions recognise that nursing is not just common sense but is based on knowledge derived from research and organised in the form of concepts and theories.

The contribution of research towards the status of a profession is also recognised by the allied health professions (AHPs). Sackley (1994) reported that 'physiotherapists in the UK have recognised the trend towards becoming research-based practitioners, ready to justify their techniques and procedures'.

The creation of a body of knowledge is the means by which parity with other professions can be achieved, and research is the process by which this knowledge can be developed and validated.

The role of nurses in research

As explained above, nurses have an important role in creating a body of knowledge and using it to inform their practice. This is what is meant by nursing being a research-based profession (Briggs, 1972). Yet it is not always clear to nurses what exactly they are expected to do. With competing demands on their time and the need to acquire a range of skills, they may wonder whether they are expected to be researchers as well as nurses. This perception may be based on the fact that research is relatively new to nursing.

Nurses' primary duty is to give the best possible care to patients. This involves creating and maintaining a safe, caring environment and using interventions which, to the best of their knowledge, are the most appropriate and

effective in bringing about the desired effects. To do so they should question the knowledge and rationale on which they base their practice and seek to develop new ways to improve what they do. The answers to some of these questions can be obtained in various ways, including research. An important step in integrating research and practice is for nurses to be research-minded.

To be research-minded involves an attitude and an ability to ask questions of one's practice which can be answered through the process of research. While the next step involves finding the answers to those questions, it does not mean that practitioners are expected to carry out research studies, although some do. The answers may already be available in the form of published research. In this case a literature search and review would be undertaken. In cases where there is no research, the role of nurses is to identify and work with those who have research experience and who are in a position to carry out a new study. To complete the process, the findings of the literature review or the research study should be critically appraised, and where appropriate, they should be disseminated and implemented.

Nurses' role in research extends beyond asking questions, and seeking and implementing evidence. It includes protecting patients' rights by ensuring that patients are fully informed of the implications of participating in research, that informed consent is sought, that no pressure is exerted – directly or indirectly – on them to participate, and that their right to withdraw at any time is respected. This advocacy role applies throughout the duration of the project and beyond. (See Chapter 6 for more discussion of these issues.)

The methods and skills used by researchers can also be of use to nurses in their daily practice. Kirkham (1994) states that 'the basic skills of research, i.e. listening and observation, are also the basic skills of midwifery'. Nurses and midwives engage in problem solving. They consistently collect and analyse data in the assessment of patients and in the evaluation of outcomes. The skills of interviewing and observing in clinical practice can be sharpened though learning some of the research method skills. Hayes (2002) explains how her research experience prior to starting nurse training was useful to her as a nurse:

> My research background has helped me develop an enquiring mind and the ability to see the broader picture. It helps me question my practice and its impact on patients. The skills I developed while working as a researcher are relevant to everyday practice on the wards. For example, they give me the confidence to tackle new information and communicate with people. Interview skills help me to sensitively obtain information for patient assessments and analytical skills help me develop care plans.

Although it is rare that a student nurse would have research experience before undertaking nurse training, this example shows how learning research skills can benefit practice.

To maximise the potential contribution of research to practice requires knowledge of what research means, its strengths and limitations, knowledge of the research process (including the main research designs) and an appreciation of the ethical and political implications of research. Knowledge of support systems and available resources is often very important. The skills required include the ability to identify aspects of practice which would benefit from research, to formulate research questions, to differentiate between questions which can be answered by research and those which can be answered by other means such as audit and reflection on practice (or by a combination of these).

Another fundamental skill for research-based practice is the ability to search and critically appraise research studies. Information technology has greatly facilitated access to research and other literature. To fully reap the benefits nurses need the skills to search, obtain and critically read appropriate and relevant literature. Critical appraisal skills are likely to be more useful to most nurses than the skills to carry out research. Finally, the skills to implement findings and to manage and evaluate change are crucial if research is to have any impact on practice.

How nurses should acquire these fundamental skills remains a subject for discussion. Anecdotal evidence in the UK suggests that this has been interpreted differently by different institutions, with the result that some courses require students to carry out a literature review on a topic related to practice, while others expect students to formulate a research proposal or even carry out a small-scale project. The consensus in the nursing profession seems to be that qualified nurses should be able to read and use research critically and have a sense of the need for research to underpin their practice. The task of conducting research should rest with those who have acquired further education and training, especially in research methodology.

The role of nurses in research-based practice as described above applies to all nurses, since they all should identify researchable questions and seek and implement evidence. However, depending on the nature of their jobs, positions or responsibilities, some nurses may put more emphasis on certain aspects of these roles than others. For example, nurse managers may have more of a leadership role in encouraging and facilitating others to enhance their practice through research and by supporting them with the necessary resources. Specialist nurses may be required to have a greater awareness of research in their own area of specialism, and to act as a useful resource for other less specialised nurses.

There are a number of triggers and reasons which can make you question your practice. These include:

1. When you carry out a task, even though you have doubts about whether it is effective, harmful or even necessary, as shown in Research Example 1.

RESEARCH EXAMPLE 1

So much for common sense

Jackson (1994)

'It is current practice to note a woman's temperature, pulse and blood pressure when she is admitted in labour and to record the foetal heart rate. Normally these readings are then recorded at regular intervals throughout labour . . .

There is no research base to support the need for some of these observations in the first instance or to use as a basis for determining the frequency of others. Yet I, like many others, would be reluctant to abandon them. There does seem to be a logical explanation for performing the observations and I could, like all midwives, explain why they are thought to be necessary. On the other hand, I cannot recall ever finding a woman's temperature to be raised at the beginning of labour except in circumstances where pyrexia would have been expected or anticipated. So why have I continued to take and record it? If I am honest, it's because I've never really thought about it before writing this piece.' (Jackson, 1994).

2. When you want to know more about something which arouses your curiosity (Research Example 2).
3. When you wonder whether there is a better way to care for patients (Research Example 3).

RESEARCH EXAMPLE 2

Choosing a research topic that has personal and professional significance helps with motivation

Duffy (2002)

Duffy shows how her experience influenced her motivation and interest in exploring a particular topic.

'As a staff nurse I had been involved in failing a student on a clinical placement, an experience that I will never forget. Then as a lecturer I was involved in supporting mentors who were trying to decide whether or not to fail students. So issues around failing students in clinical practice was something that held my interest for some time.'

She explains that the professional significance of exploring this topic came when she read research findings which suggested that students whose performance was unsatisfactory were allowed to pass their clinical assessments. Her concern about patient care and safety were also prime reasons for choosing this topic for a Ph.D. study.

RESEARCH EXAMPLE 3

Under the skin of any nurse researcher you will find a colleague quite like yourself

Laight (2002)

Laight (2002) explains how, prior to becoming a nurse researcher, she used research to improve her practice.

'My introduction to research occurred in response to a patient I can still picture now, ten years later. He was critically ill and receiving intensive care for multi-system failure. His eyes became bloodshot, oedematous and ulcerated. I wondered if better eye care could prevent this.

I embarked on a project to investigate and standardise the eye care we delivered on the intensive therapy unit and ultimately compared the effectiveness of two forms of eye care.'

Laight (2002) went on to explain the difficulties she experienced in doing her study but concluded that it increased her understanding of the factors that contributed to the eye conditions shown by her original patient.

4. When you want to introduce a new policy or practice (Research Example 4).

RESEARCH EXAMPLE 4

Research at a local level not only helps improve care, but also brings dividends for staff

Cole (2002)

Cole (2002) explains how he wanted to review the policy on visits to patients by friends and relatives.

'The staff felt this was an important issue that was often overlooked. They wanted to revise the current policy, and rather than merely changing it to what the staff thought was best, they decided to use research to find out what the patients, visitors and staff actually thought about the whole topic.'

Cole (2002) expected that the research project would lead to improvement in clinical care and to an increase in the awareness of the research process and issues for all those involved.

These are examples where nurses decided, for good reasons, to collect data to answer their questions. However, before engaging in a project it is wise to search and review the literature as the answers may already be available. One must also be careful when using research findings that are not conclusive.

It is important in any profession that some of its members focus their attention on research. In the UK, Briggs (1972) proposed that the 'active pursuit of serious research must be limited to a minority within the nursing profession'. To carry out serious research, nurses need a degree of knowledge and skills, not usually attainable in basic training. The research training of undergraduate nurses varies in the UK, as explained earlier. Anecdotal evidence, as well as a perusal of the nursing literature, shows that more and more staff nurses in the UK conduct research, albeit small-scale projects, mainly as part of their courses. Some take part in projects led by doctors and other health care professionals.

Practising nurses are frequently asked to collect data for other researchers, be they nurse researchers, doctors, psychologists or others. Their clinical nursing experience can be valuable to the research enterprise. Nurses are in a position to identify problems that need investigation through research. On the other hand, the researcher can also bring her detached perspective to bear on the problem being researched. This is illustrated by the following example. A researcher was called upon to help to improve care in a ward of older people through research. She had a hunch that constipation might be a problem in this group of patients. The ward sister did not think so until they both examined the Kardex and found that 11 out of 19 patients were prescribed laxatives, some three times daily. While discussing each patient individually, the ward sister also observed that those who were not prescribed laxatives were also the most confused patients on the ward and would probably not have been able to ask for medication. Without clinical insight, the researcher would have missed this important observation. This highlights the important and unique contribution that nurses can make to the research enterprise in nursing. The research–practitioner collaboration is further discussed in Chapter 18.

The American Nurses Association's (ANA) (2003) position statement on education for participation in nursing research states that at undergraduate level, 'an attitude of enquiry, as well as an introduction to the research process should be initiated'. They should also learn about how to look for, critique and utilise, research in their practice. According to the ANA (2003) the responsibility for the conduct of research begins at master's level, when they are prepared to be active members of research teams. At doctoral level, nurses should be able to contribute to knowledge through 'the conduct of research aimed at theory generation or theory testing' (American Nurses Association, 2003).

The danger of leaving the conduct of research to a minority of nurses within the profession is that practitioners may not see research as integral to their practice. While there is some evidence from nursing journals of staff nurses conducting research, it is too much to expect first-level nurses to do so, even though many are very capable of doing so. Whether they conduct research or not will depend on their research training, their interests and their skills, and on available opportunities. Although nurses should collaborate with others, they must seek to become full members of the research team. The opportunities to register for a higher degree must also be considered. Nurses have grown in confidence from

the early days when they were mostly handmaidens to medical and other researchers, collecting data with little to show for it.

Research and clinical effectiveness

The primary goal of nursing research is to improve the quality of care given to patients and clients. The drive towards clinical and cost effectiveness has been at the heart of health policies in the UK in the last two decades. The aim is to strive 'continuously to improve the overall standard of clinical care, to reduce unacceptable variations in practice and ensure care is based on the most up-to-date evidence of what is known to be effective' (Department of Health, 1999). Clinical effectiveness is defined as:

> The extent to which specific clinical interventions, when deployed in the field for a particular patient or population, do what they are intended to do, i.e., maintain and improve health and secure the greatest possible gain from the available resources. (NHS Executive, 1996)

To coordinate and maximise individual nurses' and other health professionals' contribution to clinical effectiveness, a number of policies and measures have been introduced in the UK. They are designed to:

- set clear national quality standards through National Service Frameworks and the National Institute for Clinical Excellence (NICE);
- ensure local delivery of high-quality clinical services through clinical governance;
- monitor delivery of quality standards in the form of a statutory Commission for Health Improvement (CHI) and the National Performance Frameworks and national patient and users survey. (Department of Health, 1999)

Since then the CHI has been replaced by the Healthcare Commission (http://www.healthcarecommission.org.uk).

In effect, these national measures set the standards by which quality is to be measured, provide a framework to facilitate and coordinate the implementation of these standards and create structures to monitor and evaluate the extent to which they are achieved.

Research plays a key role in providing evidence on the value and limitations of clinical interventions and on their cost effectiveness. This was recognised by the UK government when it launched its NHS Research and Development Strategy in 1992, at the heart of which is evidence-based health care (Department of Health, 1992). However, it must be emphasised that clinical

effectiveness is not achieved through research only. Other strategies used by health professionals to develop and enhance their practice include the development and use of clinical guidelines (see Chapter 18), client pathways, clinical audit, patient feedback and reflection on practice.

In the health service audit is carried out to monitor if and how the standards and objectives set by a particular service are achieved. Thus audit is an activity which monitors, through the collection of data, the targets and standards set. The findings of audit are primarily designed to measure how these targets are achieved. In doing so it can identify gaps in practice; then new standards and goals are set, and the audit cycle can start again. It is, therefore, a continuous monitoring of targets and performance.

Research, on the other hand, seeks answers to particular questions and uses a range of designs and rigorous methods of data collection and analysis. Research is expected to enhance our understanding of phenomena or test particular theories. Audit, on the other hand, is a monitoring function using limited (often already available) data to inform practitioners of the extent to which they are achieving their objectives. Balogh (1996) and Closs and Cheater (1996) have provided useful discussions of audit and its relationship with research.

Finally, the role of professional organisations in promoting clinical effectiveness is vital in providing guidance and support for their members. In 1996, the RCN launched its Clinical Effectiveness Initiative, which aimed to provide nurses with information, support and advice (Royal College of Nursing, 1996). Other relevant publications include *Guidance for Nurses on Clinical Governance* (Royal College of Nursing, 1998) and *Doing the Right Thing – Clinical Effectiveness for Nurses* (Royal College of Nursing, 1999).

Development of nursing research

The origins of nursing research can be traced back to the time of the Crimean War when Florence Nightingale collected statistical data on mortality rates in the hospital where she worked. However, it was not until the beginning of the twentieth century in the USA, and in the 1950s in the UK, that nursing research began to develop.

Although the pace and extent of the development of nursing research worldwide vary from country to country, there are remarkable similarities in the way nursing research began and progressed thereafter. This is mainly due to some of the similar issues faced by nurses everywhere, namely the low status of nursing relative to other health professions, the education and training of nurses at the margins of higher education and the lack of resources to carry out research.

Tierney (1997) offered an insightful analysis of the development of nursing research in some European countries. She described the 1960s as the emerging years in which 'lone pioneers' played a great part. The 1970s are credited with the 'beginnings of collective activity', both internationally and nationally,

throughout Europe. Tierney (1997) explained that collaboration among pioneer nurse researchers across Europe led to the formation of the Workgroup of European Nurse Researchers (WENR) in 1978. The 1980s are described as the period of 'growth of activity and infrastructure', underpinned by the nursing profession's expanding association with universities. Finally, the 1990s was an era in which 'the development of research in nursing in Europe' was steered 'strategically and with a greater sense of political acumen'.

Tierney (1997) also recognised that the advancement of nursing research has occurred more rapidly in countries with strong and stable economies. Not unsurprisingly, therefore, the development of nursing research in less developed countries has lagged behind; not much is written about nursing research in these places. The lack of funding and the low status of nursing in many of these countries have been factors contributing to the slow development of nursing research. Mangay-Maglacas pointed out in 1992 that nursing research in the developing and least developed countries was 'in its infancy', although 'much development had taken place in improved educational patterns and increased recognition of nursing as an important element of health care systems'. More recently Uys (1998) observed that 'nursing research in most developing countries is still in an early developmental stage', while Lee (2003) believes that the majority of nurses in developing countries have been data collectors rather than researchers, although things are beginning to improve.

While research carried out in developed counties can be useful to nurses and midwives in developing countries, there are many areas – such as 'nursing care of endemic diseases, approaches to health education with illiterate/oral groups, inclusion of traditional healers in health terms' – which remain unresearched because they are not priority areas for nurse researchers in Europe or the USA (Uys, 1998).

It is not wise to generalise about developing countries as they vary according to their stages of economic development. In some of those countries nursing research is more developed than others. There are also examples of joint projects in education and research between richer and poorer countries. This is seen as beneficial as well as a hindrance. Joint ventures involve transfer of skills and useful learning opportunities. However, they can lead to developments in the image of Western societies. Mancia and Gastaldo (2004), referring to the relationship between Brazil and the USA, point out that:

> So far, the dominance of the scientific model of American nursing has prevented fruitful exchanges between Brazilian (Portuguese-speaking) and English-speaking nurses. In this model, which mirrors the commercial relationships between first world countries and third world countries, English-speaking nurses are producers of knowledge, while non-English speaking nurses are its supposed consumers. When Brazilian, Portuguese-speaking nurses try to resist this dominant model and establish equal relationships, a series of subtle but effective barriers comes into play.

It is difficult to know what the current situation regarding nursing research in developing countries is since there is a dearth of publications on this issue, and some are in languages other than English. The impression is that nurses in these non-Western countries are rising to the challenge of developing a research culture and acquiring funding for training and projects. There is ample evidence, for example, from South Africa (Brink, 1992), Taiwan (Tsai, 2000), Brazil (Collet et al., 2000) and Iran (Valizadeh and Zamanzadeh, 2003) of nurses engaging in research development and research utilisation.

To understand further how nursing research developed, and the contributing factors, we need to look at the following areas: the role of professional organisations, the focus of nursing research, the trend in approaches used in nursing studies, research capacity building and research funding.

The role of nursing organisations

Nursing organisations have played a vital role in promoting the need for research, in providing support, as well as in advocating state recognition and funding for nursing research. Tierney (1997) acknowledges the significant contribution of national nurses' associations:

> There is no doubt that the developments of nursing research in Europe has been greatly strengthened by the active support of national nurses' associations (NNAs) and, indeed, in many countries, they have done more than any other single organisation to advance the cause of research in nursing.

She gave the example of the Royal College of Nursing's contribution to nursing research in the UK by pointing out how it supported researchers as early as 1959, through the establishment of a nursing research discussion group. The RCN Nursing Research Conference, organised by the Nursing Research Society, is an annual fixture for nurse researchers in the UK and beyond. In 2003, the RCN published its position statement, *Promoting Excellence in Care through Research and Development* (Royal College of Nursing, 2003). This document outlines the role of the individual nurse, the health care provider and the higher education institution in research and development of nursing practice.

Other examples of NNAs' role in nursing research include the founding of the Irish Nurses Research Interest Group (INRIG) in the mid-1970s. The Department of Health and Children in Ireland (2003) recognised the contribution of INRIG, who 'pioneered research appreciation, research thinking, and research utilisation and ensured research was included on the nursing and midwifery agenda in Ireland'. For other examples see the special edition of the *International Journal of Nursing Studies* in 1990 (vol. 27, no. 2), which focused on the development of nursing research in the UK, Canada, Norway, Sweden, Denmark and Finland.

The focus of nursing research

The early phase of nursing research development was characterised by a focus on nurses rather than on clinical practice, although there are still signs that the situation has not quite reversed. In the USA, 'studies about nurses outnumbered clinical studies by 10 to 1, in the early years' (Henderson, 1994). In New Zealand, 'prior to 1973 the history of nursing research is scant and very much a history of research on nurses, conducted mostly by non-nurses and always from the perspective of another discipline' (Chick, 1987). Borbasi et al. (2002) analysed topics in Australian nursing research publications between 1995 and 2000. They found more research on 'education of nurses' than on 'practice issues', and that data were collected more often from nurses (40.7 per cent) than from patients (25.5 per cent). Traynor et al. (2001) found 'research concerned with problems and issues to do with nursing as a profession' (endogenous) more than doubled between 1988–1991 and 1992–5, in the UK. At the same time research concerned with the nursing of patients (exogenous) had a 'lower rate of growth in output'.

Early research studies in nursing were invariably carried out by non-nurses. Macleod-Clark and Hockey (1986) remarked that up to the mid-1960s nurses in the UK had been dependent on members of other disciplines, especially the social scientists, for the study of their own profession. This is supported by Traynor et al. (2001), who pointed out that early studies of nurses and nursing tended to be undertaken by sociologists or industrial psychologists. According to Flaherty (1990), 'although Canadian nurses have been involved in research for more than half a century, in the beginning the research activity consisted largely of co-operation with and/or assistance to members of other disciplines'.

Traynor et al. (2001) suggest that research studies which focused on nurses and were carried out by outsiders provided nurses with a 'medium for consciousness raising and self-definition for the profession'; resulting in the 'expulsion' of those who 'lurk in the margins' of the nursing profession.

Nursing research was also dominated, in its early phase, by quantitative approaches. This may be because these studies were carried out by social scientists trained in these methods. Early nurse researchers would also have been trained mostly by researchers in other disciplines which were steeped in quantitative methods, at a time when qualitative research was in its early phase of development. In the last two decades, the number of published qualitative studies have increased significantly. There are signs that they may have overtaken quantitative ones. According to Curzio (1998), much of nursing research is qualitative in nature. Borbasi et al.'s (2002) analysis of Australian nursing research publications found that 41 per cent used quantitative and 47 per cent qualitative approaches. Using a combination of these approaches has become popular recently (see Chapter 5).

Research training and education

One of the main barriers to the development of nursing research is the lack of resources and training opportunities for nurses. Although the situation has improved in some countries, it still remains problematic in others. Doctoral programmes in many countries are recent, and in some countries like Spain there are no Ph.D. programmes, although nurses can earn doctorates in other fields (Moreno-Casba and de Frutos-Sánchez, 2002). In Canada the first doctoral programmes in nursing date back to the early 1990s. In the UK, which has a longer history of doctoral programmes, there were 3,700 postgraduate students in 1998–9 (Traynor and Rafferty, 2001). However, as Hale (2002) points out, once nurses have obtained their Ph.D.s, there are few opportunities for them to consolidate their experience.

One of the reasons for the lack of a research tradition in nursing is that nurse education in many countries took place outside the university sector. Wright et al. (1995) explain that the move of nurse education into universities brought a whole new meaning to nurse education in Australia and, in particular, nursing research. The integration of nurse education into higher education in the UK seems to have acted as a catalyst for the education of nurses to doctoral level. Although much progress has been made there is a shortfall of capable researchers in nursing to meet the demands of evidence-based practice (Rafferty et al., 2003). This was recognised by the Higher Education Funding Council for England (HEFCE) who, in partnership with the Department of Health (DoH) set up a task group to report on research capacity building in nursing and the allied health professions (AHPs). The Report (HEFCE, 2001) recognised the underfunding of nursing and AHPs' research relative to comparable professions such as education. It also found that funding was 'skewed towards short-term projects'. One of its main recommendations was the establishment of a fund to develop and expand the capacity for high-quality research in nursing and AHPs over a period of seven years. Without meaningful investment in the training of nurse researchers, it is difficult for nurses to deliver the evidence-based practice agenda.

Funding nursing research

Funding research training is only a symptom of the general lack of funding for nursing research. The amount of funding available for nursing research varies according to individual countries. In Europe, some countries like the UK have been able to attract considerable funding for research, while others, especially in Eastern Europe, have virtually no access to research funds (Tierney, 1997). From their 'mapping exercise' of 50 nursing and midwifery departments in UK universities, Traynor and Rafferty (2001) showed that research income increased from £3 million in 1996–7 to £9.7 million in 1999–2000. Nonetheless, funding provision in the UK remains patchy, fragmented and uncoordinated

(Rafferty et al., 2000). A task force to report on the Strategy for Research in Nursing, Midwifery and Health Visiting (Department of Health, 1992) recognised the need for 'ring-fenced' funding but rejected the call for a research council. The reasons put forward by the task force was that 'separate development would lead to marginalisation' and constrain the contribution of nurses, midwives and health visitors to the National Health Service Research and Development Strategy (NHS R&D) (Rafferty et al., 2000).

In the USA, nursing research has fared better. The National Institute of Nursing Research, which began life as a 'Center' in 1986, was established in 1993. Its annual budget, which rose from $6 million in 1986 to $90 million in 2004, is spent on grants for clinical and basic research (74 per cent) on pre- and postdoctoral training and career development (12 per cent) and other aspects such as research management and support (National Institute of Nursing Research, 2004). Such a model of research structure and funding ensures a co-ordinated and holistic approach to the development, support and promotion of nursing research. A nursing research council in the UK would similarly ensure that the profession sets its own agenda within the national R&D framework and allocate funds as appropriate to research programmes and training. Such a council could balance the need for nursing research to address clinical and related issues directly with the need to invest in basic research designed to produce new knowledge. It could take a strategic role by facilitating, coordinating and monitoring research activities in the profession.

The Research Assessment Exercise (RAE) carried out periodically in the UK is an audit of the volume and quality of research and related activities in universities and other academic institutions. Nursing was ranked last in the 1996 and the 2001 RAE among all disciplines which took part in the exercise. It seems that as well as being marginalised, nursing continues to 'hang at the coat tails' of other professions and disciplines.

Other countries, such as Canada, have different support systems and funding sources. According to Wood (2001), nurses in Canada in the early 1980s struggled for recognition of their research efforts, and the Canadian Nurses Association and the Canadian Association at University Schools lobbied extensively for dedicated funding to support nursing research. More than 20 years later the funding situation had improved greatly. Three main sources of funding for nursing research and research capacity building are the Canada Foundation for Innovation, the Canadian Health Services Research Foundation (under its auspices, funds dedicated to nursing research are administered) and the Canadian Institutes of Health Research (Wood, 2001). In other countries nurses continue to struggle in their efforts to secure funding for their research. Wright et al. (1995) point out that nursing research in Australia 'has received low priority in funding, especially from prestigious academic funding bodies, such as the Australian Research Council and the National Health and Medical Research Council'. In Ireland funding for nursing research has remained 'ad hoc' over the years (Department of Health and Children, 2003). Recently some

funding has been made available by the Health Research Board and An Board Altranais for research capacity building and for research projects (ibid.). The Research Strategy for Nursing and Midwifery in Ireland recommended that 'additional funding should be provided to finance a variety of nursing and midwifery research activities through the Health Research Board and that finance for postgraduate, doctoral and postdoctoral research should be enhanced' (ibid.).

The overall picture of funding for nursing research worldwide is that the USA remains the envy of nurse researchers elsewhere. In some countries of Europe funding has increased over the years but this is less than for comparable professions. Finally, some countries have little, if any, access to funds for nurses to engage in research.

Putting the development of nursing research in perspective

Although the development of nursing research has been slow in many of the countries mentioned above, there are real signs of progress in terms of research activities and research infrastructure and support. There is also growing recognition by the state of the importance and benefits of nursing research. In contrast, nursing research in poorer countries remains undeveloped and poorly supported.

Progress is reflected in the growing number of nursing journals and in the number of research papers published. According to Dawson et al. (1998) nursing research, in terms of publications, is one of the six most rapidly expanding sub-fields of biomedicine in the UK. However, this needs to be put in context. As Rafferty et al. (2003) point out, 73 per cent of (published) research in nursing remain unfunded despite the fact that the UK invests almost £3.5 billion in medical research.

Research is now well integrated in nursing curriculae in most developed countries. The number of nurses trained to doctoral level has also increased and continues to rise. More support in terms of studentships and fellowships are available to nurses. Yet apart from the USA and a few other countries most research projects remain small with little potential impact on practice. With few exceptions, research programmes supported by significant funding remain outside the grip of nurse researchers. Giving the tools of research to nurses by training them at postgraduate level and not providing funding for nursing research thereafter prevents them from fulfilling their potential and from making their contribution to evidence-based practice.

There is growing recognition by governments of the potential for nursing research to contribute towards the clinical and cost effectiveness of nursing care. In the UK the DoH (1999) published the document *Making a Difference: Strengthening the Nursing, Midwifery and Health Visiting Contribution to Health and Healthcare* in which it pointed out that for practice to be evidence-based nurses, midwives and health visitors 'need better appraisal skills to translate

research findings into practice'. If research findings relevant to nurses' work do not exist, nurses have little to implement. This document also recommended the development of a strategy to influence the research and development agenda. In 2000 *Towards a Strategy for Nursing Research and Development* (Department of Health, 2000) was published and it made a number of recommendations including the need 'to explore options for pump-priming a handful of designated centres with thematic research and development programmes to help build capacity through partnerships and collaboration, focusing on links with the NHS and service delivery'. This strategy did not seem to address the issue of 'ring-fenced' or dedicated funds for research projects in its recommendations. Rafferty et al. (2003) believe that without 'targeted investment the service will fail to deliver the benefits of evidence-based practice'.

In Ireland, the Department of Health and Children (2003) published the first ever *Research Strategy for Nursing and Midwifery in Ireland*. It recognised the 'considerable importance' of research in providing a solid base for nursing and midwifery practice. It also made a number of recommendations including the provision of additional funding through the Health Research Board.

There is a growing recognition of the importance and value of nursing research worldwide. This is reflected in nursing curriculae, in the increase in studies, journals, books, conferences and workshops, and in the thirst for research training and development. More remains to be achieved, in particular in countries where nurses and midwives still face an uphill battle in making their voices heard.

SUMMARY

Summary and conclusion

The role of research-based knowledge in decision making is crucial for effective practice, and the need to have a sound rationale for one's practice has increased over the last decade. It is not incumbent on every nurse to carry out research, but all should be research-minded enough to value the contribution of research to practice, identify problems that can be explored through research, be aware of research findings, collaborate with others in research activities and protect the rights of patients with regard to their involvement in research projects.

While nursing research must be carried out by nurses in order to create a nursing body of knowledge, a multi-disciplinary approach is also required as nurses work with other health professionals and share the same goal.

Nursing research has come of age in some countries, while in others it is still in its infancy. The momentum created by nursing research must be maintained and increased if it is to contribute positively to patient care and achieve the recognition it deserves.

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