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RESEARCH METHODS FOR NURSES AND MIDWIVES

THEORY AND PRACTICE

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# Part I

## Laying the Foundations

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INTRODUCTION TO RESEARCH IN NURSING AND MIDWIFERY

Within this chapter we lay the foundations for the topics, concepts and issues that will be explored in more detail in subsequent chapters. In this chapter we will:

• outline the aim and rationale for the book
• establish a definition of research that applies both within and beyond the health care setting
• explore the need for nursing and midwifery research and the reasons why it is imperative that nurses and midwives are 'research-aware'
• introduce the concept of evidence-based practice
• provide an overview of the history of nursing and midwifery research in the UK
• identify the factors and pressures that have influenced nursing and midwifery research to date.

AIMS OF THE BOOK

The word ‘research’ has become part of our everyday language and most of us will have participated in a consumer survey, the national census or perhaps a health care related study. It is also very likely that we have unknowingly been part of a research study; probably the most likely example of this is a survey of traffic flow, which monitors the number of cars travelling a particular route over a period of time. Research is going on around us in all kinds of settings, whether or not we engage with it. We are also increasingly exposed to information via the Internet, in newspapers and on the radio and television about the findings of the latest research. Sometimes these findings appear obvious and common sense. Consequently we may regard such studies as a pointless exercise and a waste of money. At other times the findings of research studies may seem contradictory or dubious. In other cases such as the Measles, Mumps and Rubella
Research methods for nurses and midwives

(MMR) study, research findings that have been widely reported have subsequently been discredited (Wakefield et al., 1998). It is perhaps therefore not surprising that we sometimes regard research with apprehension, caution and suspicion.

However, for those of us involved in health care, research is integral to our clinical and academic work. There are numerous examples of research studies, particularly over the last 50 years, that have led nurses and midwives to question their practice (Stockwell, 1972; Sleep and Grant, 1988). In many cases these studies have instigated important changes in the provision of care. Most programmes of study for nurses and midwives now include modules on research methods and evidence-based practice (EBP), professional journals contain papers on the latest research studies and books such as this have been written to help practitioners become more research-aware. Nevertheless, it is probably the case that, like the wider public, many nurses and midwives have the same uncertainties and concerns regarding research.

We aim to address these doubts and anxieties in this book. We will introduce readers to evidence-based practice and the research methods that are commonly used in health care. In doing this, we intend to demystify the seemingly complex nature and complicated language of research. We aim to support those who have little prior knowledge about research methods and evidence-based practice. This book will help readers to develop confidence recognising different types of research and establish a solid knowledge base from which they can develop more advanced thinking, use research findings in their practice and successfully complete academic work. We also anticipate that other readers will use the book to refresh their knowledge, clarify meanings and develop their
understanding. The book will support them in their pursuit of further academic study or to undertake other research-based activities.

To facilitate understanding, we will make clear links between research theory and its application to clinical practice. This will provide an insight into how research underpins and develops practice. In this way, we hope that readers will feel more comfortable about research and the use of best evidence to inform their practice and develop the care they give. We anticipate that the book will support students as they undertake academic assessments involving research, whether this is a critical analysis of a specific research study, a work-based project, a proposal for service improvement, a literature review, a systematic review (SR) or the development of a research proposal. In the longer term, we hope that the book will also help readers to feel more confident about undertaking and leading research themselves.

**WHAT IS RESEARCH?**

A logical starting point is to be sure that we understand what research is and to develop a definition that we will use throughout the book. In clarifying what research is, it is important to remember that the word ‘research’ can be used as a noun, in other words the activity itself: ‘the research study’; or it can be used as a verb to denote the process of undertaking the activity: ‘to research’.

**THINK POINT ACTIVITY 1.1**

Make a list of all of the activities that you have taken part in over the last year that might be described as being ‘research’. Include health care related research and other studies that you have been involved in. For example, have you participated in a consumer survey? Have you collected data for someone else’s study? Or have you taken part in an interview or focus group?

When we think of the word research, we might picture scientists working with chemicals in test tubes in a laboratory or someone standing on the high street with a clipboard asking shoppers questions about the washing powder they use. However, are these accurate examples of research? It probably is the case that the label ‘research’ is an overused term. In some cases it has been used to legitimise or raise the profile of what might otherwise be regarded as being questionable activities. In other situations the term research has been used misguidedly to describe other types of activity such as audit.
According to the *Concise Oxford Dictionary* the word ‘research’ originates from sixteenth-century French and is derived from two components, ‘re, expressing intensive force’ and ‘cerchier, to search’ (Stevenson and Waite, 2011: 1222). A definition of research must therefore allude in some way to the activity of ‘intense searching’. However, as we will see in later chapters, there are a number of different research methods and designs, and the ways in which they are carried out can vary considerably. We therefore need to develop a general definition that will be appropriate for all the different types of research. Some of the words and phrases that we identified in Website activity 1.2 are specific to particular methods and designs and they would not therefore be appropriate for our general definition of research. However, it is important that whatever the method or design, when research is carried out the researcher must adhere to the key elements or principles of that particular method or design. The researcher should also make every attempt to minimise any flaws or weaknesses in the study. Therefore whatever method or design is used, the research must be carried out in a rigorous, thorough and organised way. Whilst we acknowledge that other definitions of research have been offered, our preferred definition is given below. This applies for research both within and beyond the health care setting and this is the definition of research that we will use throughout the book.

**RESEARCH**

A study that is carried out in a systematic and credible way in order to answer questions, find solutions to problems, generate new knowledge or confirm existing knowledge.

**RESEARCH: WHAT’S IT GOT TO DO WITH ME?**

Having identified at the beginning of this chapter that research is an increasingly prominent feature in all aspects of our lives, we must acknowledge that some nurses and midwives regard research in a negative way (Morse, 2006). We might be tempted to think that research is ‘someone else’s business’ and perhaps understandably workload pressures may mean that nurses and midwives do not see research as being their priority (O’Byrne and Smith, 2010; Bohman et al., 2013). As a consequence, nurses and midwives, particularly those working clinically, may view research as being the territory of an elite few, principally doctors and those working in academic institutions. To some extent this view is fuelled and perpetuated by the relatively few clinical research opportunities available for nurses and midwives and a lack of forward planning to build research capacity (O’Byrne and Smith, 2010). We might also think about research as being a...
means to an end; something that has to be done as part of a module or programme of study that can then be put aside when an assignment or a course is completed. However, understanding research has far-reaching benefits. It is not just about being able to ‘do’ research. It is also about knowing how to access current research findings, being able to discriminate between sound and flawed research and identifying research that should be implemented in practice (Coughlan et al., 2007; Ryan et al., 2007). Being research-aware therefore enables nurses and midwives to deliver safe, effective and high quality patient care (Nursing and Midwifery Council, 2015a), and is a skill to be utilised by nurses and midwives throughout their professional practice (Fothergill and Lipp, 2014).

**THINK POINT ACTIVITY 1.2**

Write down your thoughts and feelings about research. Do you regard research in a positive or negative way? What is your current level of knowledge about research?

In health care, research is everyone’s business, whatever their role. Having knowledge and understanding of research and evidence-based practice is as important as knowing about other key subject areas such as physiology, psychology and pharmacology. Indeed, it could be argued that research is the most important subject of all. It is not a stand-alone subject; it is integral to and in many cases is at the foundation of all other types of nursing and midwifery knowledge (Figure 1.1). Research should therefore be at the heart of care.

We acknowledge that there can be uncertainty amongst some nurses and midwives regarding research and evidence-based practice. This may be for a number of reasons. The nature of education has evolved considerably over the last decade and nurses and midwives undertaking pre-registration programmes in recent years will almost certainly have studied evidence-based practice or research methods. However, for those who qualified longer ago, these subjects may be unfamiliar territory, which in turn may lead to a lack of confidence (Bohman et al., 2013; Evans et al., 2014). Conversely, those who have studied evidence-based practice or research methods in more recent years may still feel uncertain about them because of the way they were originally taught or because of the seemingly over-complex nature of research and the complicated language that it can involve. It is also possible that some nurses and midwives are suspicious of research (Morse, 2006). To some extent, this view may arise from the widespread reporting of research that is subsequently found to be erroneous (Wakefield et al., 1998). Alternatively some may regard research as being a threat to traditional nursing and midwifery knowledge, values and ways of working and see it
as something that is imposed by others in positions of authority. These attitudes may impact upon the attempts of others to use research in their practice. For example, a recent Scandinavian study has shown that whilst newly qualified nurses had a positive approach to research, their use of research findings in their practice was limited (Wangensteen et al., 2011). The importance of strong leadership and a supportive clinical environment in the facilitation of evidence-based practice has been identified (Wangensteen et al., 2011; Bohman et al., 2013).

Whatever the case, it seems that some nurses and midwives feel uncomfortable about research and may try to avoid it as much as possible. Whilst one of the key aims of this book is to demystify the concepts and principles of research methods and evidence-based practice, we also believe that we all know more about research than we perhaps realise. We would suggest that we are all, albeit perhaps unknowingly, ‘everyday researchers’. We will have all, at some point in our lives, found ourselves in a new situation; for example, think about a time when, as part of your nursing or midwifery education, you were allocated to a placement where you had not previously worked. In the time leading up to your first day there, you will have carried out a range of ‘research’ activities to find out about the placement. You might have investigated the best way to get there, your objective being to find the shortest, easiest, quickest or cheapest route. You might have asked others who had previously been on placement there, ‘what are the staff like?’ in an attempt to find out how you will be treated or how the staff will expect you to behave. You might also have found out about the illnesses, problems or needs that the patients or clients in that care setting have, to increase your level of knowledge so that you felt more confident about the

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**Figure 1.1** Research underpinning patient/client care

![Diagram showing the research cycle: Research, Assess patient/client needs, Evaluate care, Implement care, Plan care.](image_url)
placement. You probably did not regard any of these activities as being research at the time and these activities almost certainly will not completely match our definition of research. Nevertheless, you will have used some of the principles and elements of research in your investigations. When we come to review research methods and designs in later chapters (7, 8, 9 and 11) there will be some aspects with which you are already familiar.

**THINK POINT ACTIVITY 1.3**

Think of other examples where you have been an ‘everyday’ researcher. Try to think of examples away from the health care setting. What was it that you wanted to find out? How did you go about finding the required information? Did you find out what you wanted to know?

**WHY DO WE NEED NURSING AND MIDWIFERY RESEARCH?**

Nursing and midwifery practice must be underpinned by the best evidence that is available. Wherever possible, this evidence should be research-based. Some of the reasons why we need nursing and midwifery research are identified here; these will be explored in greater depth in the following chapter:

- to ensure the delivery of safe, effective, high quality care
- to provide a rationale and justification for decisions about care delivery
- to enable patients, clients and families to make informed decisions about their care
- to maximise patient and client outcomes
- to facilitate patient and client satisfaction
- to support the development, evaluation and on-going improvement of care
- to meet clinical governance requirements
- to ensure the delivery of cost-effective care
- to ensure that the ethical, moral and professional responsibilities of nurses and midwives are addressed
- to reduce the risk of litigation for individual practitioners and the wider service
- to ensure nurses and midwives retain a professional identity within the provision of health care
- to facilitate the autonomy of nurses and midwives.
THINK POINT ACTIVITY   1.4

Review the most recent edition of The Code: Professional Standards of Practice and Behaviour for Nurses and Midwives (Nursing and Midwifery Council, 2015a). Identify which aspects of the code allude to the need for nurses and midwives to ensure that their care is evidence-based and summarise the key points.

EVIDENCE-BASED PRACTICE

Evidence-based practice is a structured and objective approach to determine the best evidence upon which care should be based. The best research evidence is one of the four essential components of evidence-based practice (see Figure 1.2). The other three elements are the values and preferences of the patient or client about their care, the knowledge and expertise of the practitioner and the resources available (see Chapter 2).

To ensure that the needs of patients, clients and their families are met, nurses and midwives must be able to identify actual and potential problems and through negotiation with the patient or client implement care that minimises, solves or averts

Figure 1.2  The essential components of evidence-based practice
those problems, utilising resources as appropriate. In order to ensure that they are using the best research evidence to inform appropriate decisions about care, nurses and midwives must be ‘research-aware’. They must be able to access and understand research, discriminate between sound and flawed research and identify the best research evidence available.

**NURSING AND MIDWIFERY RESEARCH: WHERE WE STARTED AND WHERE WE ARE NOW**

The history of the development of nursing and midwifery research in the UK is intertwined with the gradual move towards the recognition of their professional status, developments in nursing and midwifery education and the move away from medical dominance over all aspects of nursing and midwifery practice (Bohman et al., 2013). In order to understand where we have come from and where we are now regarding nursing and midwifery research, we need to explore the impact of these other factors over time.

Much health care research over the last century consisted of medically orientated studies that involved numbers, measurement and statistics. These studies were undertaken by doctors to determine the underlying causes of disease and the most effective forms of treatments. Similarly nursing and midwifery curricula in the early part of the twentieth century were developed in an era of medical dominance whereby nurses and midwives were taught predominantly by doctors, and knowledge of any value to them was regarded as being simplified medical knowledge (Yuill, 2012).

Those who led the drive for nursing and midwifery to be accepted as professions at the beginning of the twentieth century recognised the need for nurses and midwives to take control of their education (Hull and Jones, 2012). Fundamental to this was the need for a unique body of knowledge that would be recognised by others, particularly medicine and academia. In the pursuit of this knowledge, early nursing and midwifery research was almost exclusively undertaken following the methods and designs used by medicine. Indeed, Florence Nightingale is often credited with being one of the first proponents of using ‘scientific data’ to inform nursing and midwifery practice (Attewell, 2005). She collected information about the impact of the environment on mortality and morbidity, analysed this information and used the statistics she produced to support her recommendations for changes to the delivery of care and service provision. Nightingale’s work was not confined to nursing. For example, she identified the link between infection, disease and higher maternal mortality rates. To facilitate the further development of nursing and midwifery care, Nightingale advocated the collection and analysis of patient data. As a consequence of this early adoption of the ‘scientific’ approach, it has been suggested that the female professions of nursing and midwifery had to comply with male dominated medical ideology in order to be accepted, albeit as an adjunct to medicine (Rees, 2012). This gender argument is often used when the nursing and midwifery professions attempt...
to explain their history, subservience to medicine, their relatively slow development as profession and limited research base (Loke et al., 2014).

At the beginning of the twentieth century, nurses and midwives began to assume control of their professional identity and education. Landmark events in this journey include the 1902 Midwives Act (Hunter and Borsay, 2012), which secured the education and regulation of midwives. For nurses this occurred in 1919 with the Nurses Registration Act (Hunter and Borsay, 2012). The Second World War (1939–1945) and the establishment of the National Health Service (NHS) in 1948 brought further changes in attitudes. This included rapid development in technologies, treatments and interventions, and increasing numbers of patients and clients who more readily expressed knowledge and views about their care and challenged opinions (van Bekkum and Hilton, 2013). These changes meant that nurses and midwives had to be well informed about developments in health care and the ways in which care delivery impacted on patients, clients and their families. Role boundaries also began to blur as nurses and midwives began to take over some activities previously performed by doctors (Sleep, 1992). However, they continued to be responsible to doctors and so the medical profession retained its control over nursing and midwifery practice (Keyzer, 1988).

NURSING AND MIDWIFERY RESEARCH: DEVELOPMENTS OVER THE LAST 50 YEARS

Over the last 50 years the professional identities of nursing and midwifery have evolved and this is reflected in the changes in the configuration and development of new clinical roles, demands placed on the health service and the nature of nursing and midwifery education. The Salmon Report (Ministry of Health and Scottish Home and Health Department, 1966) advocated that nursing, midwifery and medicine should be regarded as independent professions of equal standing (Walby et al., 1994). This was followed by the Briggs Report (Department of Health and Social Security, 1972), which identified that nursing and midwifery needed a research base in order to assume control of its future. More recent decades have seen an increasing number of specialties within health care (Waller, 1998), which have provided nurses and midwives with greater opportunities to focus their career. At the same time, the introduction of the internal market has led to the need to reduce health care expenditure and increase effectiveness (Naughton and Nolan, 1998).

The move away from the hospital-based apprenticeship model pre-registration education to colleges in the 1980s and then to universities in the 1990s has seen the academic level of nursing and midwifery pre-registration programmes rise to Bachelor degree and in some universities, Master’s level (Loke et al., 2014). This in turn has impacted in a positive way on the credibility of the professions (Yuill, 2012). In accordance
with the directives from the statutory body governing nursing and midwifery education these programmes now include modules on research methods and evidence-based practice, and require students to develop critical thinking and critical appraisal skills. Students are taught to challenge ideas and provide a rationale for the care they provide. Recognition of the notion of life-long learning and the qualified practitioner’s professional responsibilities to ensure their practice is evidence-based has also been influential in the development of post-registration education at Bachelor, Master’s and PhD level. Research and evidence-based practice are integral to these programmes of study and clinical practice (Bohman et al., 2013). An increasing number of nurses and midwives now have higher degrees and most of these programmes require the student to undertake their own research.

From the 1970s onwards the volume of nursing and midwifery research has increased albeit that initially this was mostly undertaken by those in academia and studies focused on the professions themselves rather than patient care (English, 1994). Nevertheless, as research-based knowledge developed during the 1990s it was recognised that nursing and midwifery research needed to move away from the medical model and use a broader range of research methods and designs (Walsh and Downe, 2006; Van Bekkum and Hilton, 2013). This was partly because of the perceived need to move away from medical control and also because it was realised that much of the nature of nursing and midwifery does not lend itself to the quantifiable measurement that is generally associated with medical research (Jennings, 1986; Sleep, 1992).

Other factors have also been influential in the development of nursing and midwifery research over the last few decades. During the 1970s and 1980s social scientists such as Oakley and Kitzinger began to explore issues that impinged upon nursing and midwifery practice and these gave an insight into not only what research could show us but also ways in which the provision of care could be improved (Allotey et al., 2012). Key nursing and midwifery researchers of the 1970s and 1980s such as Norton, Hockey, Sleep and Romney became the pioneers and role models that other would-be researchers have subsequently followed. The 1990s saw the start of the upward trend in the appointment of professors of nursing and midwifery and a key remit of these chairs was, and continues to be, to build research capacity (Allotey et al., 2012). The drive towards the generation and implementation of research findings in health care has also been influenced by government directives and initiatives (O’Byrne and Smith, 2010; van Bekkum and Hilton, 2013).

There have also gradually become more opportunities for nurses and midwives to become involved in clinical research albeit that initially this was usually being the data collector for medically focused research. Whilst for some, this reflected the continued dominance of medicine (Sleep, 1992; Loke et al., 2014) it at least meant that nurses and midwives had the opportunity to develop their research skills. The increasing number of clinically based roles with a research component such as specialist or advanced practitioner, consultant nurse or consultant midwife or dedicated research posts have provided
nurses and midwives with further opportunities to gain research experience and in some instances to lead research (Evans et al., 2014). There is also now a wealth of research related resources available to nurses and midwives. These include peer reviewed journals, electronic databases and the evidence-based resources generated by organisations such as the Midwives Information and Resource Service (MIDIRS) and the National Institute for Health Care Excellence (NICE) (Allotey et al., 2012).

As a consequence of these developments, both nursing and midwifery have moved towards being regarded as a profession that is grounded in its own body of knowledge and scientific enquiry. However, the nurses and midwives should not become complacent. As we will see in later chapters, reluctance to implement research findings sometimes persists and there are many aspects of nursing and midwifery practice for which there is currently no research evidence. In addition, whilst there are probably more funding opportunities for nursing and midwifery research now than there were 20 years ago, this is still under-resourced, particularly in comparison to medical research. There is also a need to ensure that skilled researchers retain clinically focused roles, rather than move into academic or management roles. To ensure this is facilitated, dedicated research posts with appropriate scope and financial reward in a supportive environment are required to foster the next generation of nursing and midwifery researchers.
SUMMARY

In this chapter we have established what research is, why it is needed and why nurses and midwives need to be ‘research-aware’. We have given an overview of the factors and pressures that have influenced the development of nursing and midwifery research over the last century. We have also introduced the concept of evidence-based practice, which will be explored in more detail in the following chapter.

FURTHER READING


This Swedish paper focuses on many of the issues that we have raised in this chapter. As you read the paper, consider the extent to which the findings apply to your practice and the setting in which you work.


This text provides a useful history of the development of the nursing and midwifery professions (particularly Chapters 4, 7 and 9).

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