Have you ever thought that understanding research was not part of your role? Well, if you are a registered nurse, then think again! The Nursing and Midwifery Council (www.nmc-uk.org) explains in its code of conduct that nurses and midwives must deliver care based on the best available evidence or best practice. This also applies to any advice they give to patients that recommends either health care products or services. This is one good reason why nurses need to develop skills to appraise research papers. The appraisal process requires you, the reader, to constructively review a piece of research. With practice you will be able to judge whether a piece of research is ‘good’ or ‘poor’. From this you can make decisions about whether this might be relevant or otherwise to your day-to-day nursing practice.

If you can access a systematic review about your topic of interest, all the better. This means that most of the work has been done for you. To conduct a systematic review a team of researchers collect studies together in a systematic way using pre-set criteria. Studies that are judged to be relevant and of sufficient quality are selected and the results pooled together to provide a body of evidence—more information about this process was given in an earlier article in this series (MacInnes, 2009).

If even systematic reviews, at the pinnacle of the evidence-based model, must be carefully evaluated in order to confirm that they have been done well, then this must also be the case, or even more the case, for all other studies.

There has been much debate within the social sciences about the feasibility of assessing the validity of a piece of qualitative research and what approach to use (Murphy et al, 1998). However, within the context of evidence-based practice and policy in health care, there is common recognition that such an assessment is critical if qualitative research is to be taken seriously and to be able to inform practice.

To help guide you through the process of evaluating research in general, and with particular reference to qualitative research, the following questions present a possible approach.

1. What do you know about the journal where the paper is published?
Before you start reading the paper that interests you, it is useful to consider the characteristics of the journal in which the study is published. Journals vary in their quality and not all published research is good research. It is difficult to know how to assess the quality of a journal at first glance; especially when there are an overwhelming number of different ones to choose from. By going to the journal’s website you will be able to access useful information which can inform your choice.

There are no hard and fast rules with regard to judging a journal’s quality, but an international journal may be held in higher esteem than a national one. The process by which papers are selected for publication is another quality indicator. High quality journals require authors to submit their work for peer review. Reviewers with expertise in the relevant topic area are asked to assess the strengths and weaknesses of submitted papers and offer constructive criticism and suggestions for improvement. Papers considered as either poor or not appropriate for the readership are rejected. Papers that offer promise are generally sent back to the authors for minor or major revisions, before being considered for a second time by reviewers. If the revisions are approved then the paper will be published. The lead time between a paper being accepted for publication by a journal and appearing on paper varies, but can take up to a year.
A browse through the major databases will give you a sense of the scope of available journals e.g. EBSCO and MEDLINE. Your Trust librarian will be able to guide you in accessing a range of databases if you are out of practice. To be included on these databases a journal is required to submit a sample of published articles for review by a panel of experts. If they are considered to be of sufficient quality the journal will be included on a database.

After you have considered some of the characteristics of the journal from which you have selected your paper, we can move to the next step.

To critique a paper you need to become familiar with it through detailed reading. It will help you if you make notes. Once you are familiar with the paper you can consider the following questions.

2. Who has done the research?
The characteristics of the research team can tell you something about the research paper. Is the work done by an author (or authors) that you recognize as publishing other work in this field? What training have the researchers undergone? Have they done additional academic or continuing professional development study which might equip them with the skills required to conduct a research study? Is the research team multidisciplinary? All of these factors can potentially influence the quality of a published study.

3. What is the research about and why have they done it?
The next step is to understand what the research is about. There should be a clear explanation of the ‘thing’ or ‘occurrence’ (phenomenon) being studied and why this warrants attention. A closer look at the words that make up the research question will give you a good indication of the relevant theory or concepts. These should be identified in the literature review.

As well as identifying relevant theory or concepts the literature review should help the reader to understand the background to the phenomenon in question. The relevant literature should be presented in a logical way for the reader and the ‘storyline’ gradually developed. This provides a context within which the research question is placed.

In simple terms, the literature review should provide the reader with a picture of the key pieces (theory or concepts) under exploration and illustrate how these relate to one another and fit into the wider jigsaw puzzle of information. In this way the reader should be able to understand how the phenomenon being studied contributes to the overall picture. A good literature review is usually supported by comprehensive and up to date references, although some seminal works may date from decades earlier. One factor for the reader to consider when critiquing the literature review is the word limit imposed by a journal. This can vary from 2000 words to no limit at all. This will influence the breadth and depth of the literature review.

4. Is the research question clear and does it ‘match’ the methodology and method?
As established in a previous paper in this series (Astin and Long, 2009), the type of research question asked by researchers using a qualitative approach tend to focus upon the ‘how’s and ‘why’s of a phenomenon rather than trying to measure it.

In this way participants’ understandings and perceptions of a phenomenon are drawn out. The aim is to focus on understanding the dynamics of social life and the linkages between processes and outcomes. Researchers are seeking to understand phenomena holistically (from multiple perspectives), from the context within which the phenomena are located.

Researchers use an inductive (rather than deductive) mode of reasoning and analysis. Inductive reasoning is a more open-ended and exploratory approach (than deductive reasoning) to addressing a research question. To explain this simply, researchers use a ‘bottom-up’ approach and start with making observations which may lead to the development of hypotheses and theory that will require future testing. Deductive reasoning has a more narrow focus and is sometimes called a top-down approach. The researcher starts with a theory and follows this with specific observations and tests to test that theory.

Look closely at the words used in the research question and see if they match a qualitative approach.

The next step is to assess how the research question relates to the methodology and methods chosen by the researchers. There are myriad qualitative methodologies, an explanation of which is beyond the scope of this article.

It is useful to remember the difference between methodology and method. The methodology is defined as ‘the description, the explanation and the justification- of methods and not the methods themselves’ (Kaplan, 1964: 18) e.g. ethnography. The method is the ‘techniques for gathering evidence’ (Harding 1987: 2) e.g. in-depth interviews. Methodology and method are intimately linked: the methodology determines the method.

For example, a study exploring the meaning of a phenomenon to a participant might use a grounded theory methodology (Glaser and Strauss, 1967). An appropriate method
5. What sampling techniques were used and why?

The way in which participants are selected for the study is an important consideration. The aim of sampling in qualitative work is not to achieve representation but rather to gather a range of opinions or experiences about a particular phenomenon or occurrence evident in the research question.

If a researcher were aiming to explore the experience of attending cardiac rehabilitation it would be important to recruit people from a range of age groups and socioeconomic backgrounds. The cardiac rehabilitation experience would be very different for a 40-year-old man compared with an 81-year-old woman.

Sampling in qualitative work is therefore likely to be purposive—a type of non-random sampling in which participants are selected because of a particular characteristics that they share, for example all female. Questions should be posed about both who was included and more importantly who was excluded and why.

The size of the sample is also an important consideration. There is no hard and fast rule about how many participants should be included in a research study. The key point is that a point is reached in the data collection process when no more new ideas or concepts are apparent. This point in the data collection process is called data saturation (Glaser and Strauss, 1967: 65).

For example, imagine that we are doing a series of interviews to understand the meaning of living with heart failure for patients and carers. It is likely that after 20 or so in-depth interviews, we may find that no new data is forthcoming that can contribute to the development of categories that will explain the meaning of living with heart failure from participants’ perspectives.

6. Data collection: How, when, where and by whom?

Question 4 asked you to consider the methodology and methods or techniques that were used and consider how these linked to the research question. Here, the reader needs to look more closely at how the selected method—for example, focus group interviews,—was actually used.

If we stick to our focus group interview example, we will want to ask more questions about how the focus group interviews were actually conducted. For example, how many researchers were involved in conducting the focus group interviews? Vaughn et al (1996: 93) suggest that two researchers are involved in conducting focus group interviews. This enables one researcher to focus on the line of questioning and probing participants’ responses; the other researcher manages the recording equipment, identifies who is speaking when and takes field notes about the process. Kreuger (1988: 92) also recommends that there is a minimum of 4–6 people in each focus interview group and that a minimum of three consecutive groups be conducted to gain a range of opinions.

The reader may also ask other practically-oriented questions about the data collection process. For example, were the focus group interviews tape-recorded and were these then fully transcribed before data analysis?

The timing of data collection may have an influence on the results or outcome. For example, people interviewed in the first week after a cardiac event tend to be more distressed that those who have had a longer time period to learn to live with their condition.

A qualitative research approach recognizes that the context within which a phenomenon occurs heavily influences that phenomenon. With this in mind the reader should consider where data collection was conducted and external factors that may have influenced findings. For example, if we consider exploring the concept of anxiety in a group of participants diagnosed with angina, the setting in which the data collection takes place is important. A participant interviewed in a hospital setting is quite likely to be more anxious than the same participant interviewed in the security of his/her own home.

An important consideration in qualitative research is the influence of the researcher. Context is a key consideration in qualitative research and as such the researcher is considered to be part of the research process. Because of this it is important to provide information about how the researcher may have influenced the research process. In good ethnographic research, this is taken very seriously, with an expectation of a reflexive account to be presented, which centres on presenting and commenting on ‘how the research was done’ (Lofland and Lofland, 1995). Included within this may be information about how the researchers saw themselves as an influence on the research and how their feelings and beliefs may have changed in response to situations they have witnessed (Mays and Pope, 1995).

The appraisal of the methods section is incomplete without consideration being given to ethical issues. Key ethical issues that require consideration are similar across all
research studies, regardless of their design. Was approval obtained from an ethical committee? Were participants recruited in an appropriate way so as to ensure that their consent to participate was fully informed? Were data stored appropriately to maintain confidentiality of sensitive material and were identifiers removed from data to support anonymity of participants? These are some of the key issues that you would expect researchers to address in describing ethical considerations although each study will have its own specific ethical issues.

7. Data analysis and results

There are many different labels for qualitative data analysis processes but essentially all share common characteristics. In general, a type of content analysis is undertaken that is part of a cyclical process in which data is read and reread and categories developed from the data (Mays and Pope, 1995).

To critique this part of the research study the reader needs a clear explanation about how the data analysis process took place. In simple terms the researcher should provide a road map of the data analysis journey that takes the reader from the raw data to the conclusions. The procedures for data analysis should be clearly described and theoretically justified. A reader should be able to get a sense of how the themes and concepts were identified and developed from the data.

The next step is to look at how the data analysis relates to the final results. In other words, how did the data shape the results and conclusions? For example, was the storyline sufficiently supported by exemplars and quotes?

8. Quality considerations

Throughout the whole process of appraising a piece of research issues around quality need to be considered. In quantitative research the terms such as validity and reliability are used as indicators of quality in a research study. In the world of qualitative research other comparable terms are used.

A qualitative researcher must convince the reader of the research paper that the research findings are trustworthy. Rather than using the terms of reliability and validity, alternative criteria are proposed. Three widely-used criteria relate to assessing the extent to which research findings are credible, plausible and transferable.

Credibility asks the question: ‘does it seem likely that the researcher’s judgement is accurate given the phenomenon studied, the circumstances of the research, the characteristics of the research and the way the research was done?’ It centres on how the data have been produced and analysed.

Plausibility asks the question: ‘do the claims made by the researcher based on the findings seem likely given our existing knowledge?’ The reader needs to know how the researcher came to formulate the claims, for example, demonstrating through a clear trail from data through coding and analysis to the quoted extracts, and the systematic search for counter-examples or deviant cases.

Transferability asks the question: ‘can the findings or theory generated from the study be applied to similar settings or group of participants?’ This relates directly to the potential to generalize the findings.

Another important consideration, widely recommended in relation to ethnographic studies where participant observation forms a key data collection method, relates to confirmeability. Put simply: have we been told enough about the study (the way it was done etc) not only to judge the adequacy of the process, but also to assess whether the findings flow from the data? This is a fundamental question for all research, whatever the research style.

Conclusions

If qualitative research is to be taken seriously and used in the context of evidence-based practice and policy development there is a need to appraise its quality. Some simple questions have been outlined here that might be considered as pointers for those new to the appraisal of research. It should be noted that the questions are by no means exhaustive but aim to provide a starting point.

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Suggestions for further reading


Coming soon:

Suggestions for further reading on the use of mixed methods