Research principles

Week 1 – Introduction to evidence based practice

Why might nurses and midwives wish to find evidence?

- Nurses and midwives are increasingly regarded as key decision makers within the healthcare team.
- Nurses and midwives are expected to use the best available evidence in their judgements and decisions.

In addition, Nurses and midwives are directed to participate in evidence based practice in a variety of ways. This is reflected through the **National Competency Standard** affecting to each group.

- For nurses under the critical thinking and analysis the graduate nurse practices within an evidence – based framework
    - The registered nurse accesses, analyses, and uses the best available evidence, that includes research, for safe, quality practice (NMBA, 2015)
- The graduate midwife uses research to inform midwifery practice.
    - Ensures research evidence is incorporated into practice.
    - Interprets evidence as a basis to inform practice and decision making. (NMBA, 2016)

What is evidence?

- 'Knowledge derived from a variety of sources that has been found to be credible'.
- Evidence is 'grounds for belief or disbelief; data on which to base proof or to establish truth or falsehood'.
- In the context of evidence based practice this is research published in professional and academic journals and systematic reviews of research found in databases of evidence (such as Cochrane).
- Knowledge may be propositional – formal, explicit, derived from research and scholarship or non-propositional- informal, implicit,
  derived primarily through practice.

What is evidenced- based practice?

'Evidence – based medicine' (EBM) was coined and defined by Sacket, et al., 1996 as:

The conscientious, explicit and judicious use of the current best evidence in making decisions about the care of individual patients.

Evidence – based practice is the integration of best research evidence with clinical expertise and patient values to facilitate clinical decision making. (Sackett, 2000).

Sackett presents three components of evidence-based practice.

1. The best research evidence
2. Clinical expertise of health professionals
3. Patient values – opinions of patients

10 steps in the research process

1. Identifying the (clinical) problem/issue
2. Critically searching and appraising the available primary (research-based) and conceptual (theory-based) literature
3. Refining research ideas, questions, statements or hypotheses
4. Identifying and minimizing ethical issues and procedures
5. Identifying and justifying an appropriate research methodology and method
6. Sampling (choosing) appropriate research populations (participants/elements)
7. Collecting or generating research data from participants/elements
8. Analyzing collected research data
9. Interpreting and making sense of research results/findings
10. Disseminating (sharing) research findings to wider audiences.

What is a Paradigm?

- The choice of research approach is based on the research question and purpose of the study
- A paradigm is a group's understanding of reality based on the parameters in which they normally operate. Therefore, a paradigm could be seen as one's understanding of the world!
- Research paradigms guide the direction of research

Research paradigms

- Positivist approach
  - In the positivist paradigm, truth is discovered through objective, deductive reasoning traditional and scientific; tests causal relationships; quantitative; reductionist (determinism); empirical e.g. RCTs, epidemiological methods.
- Critical approach
  - The critical theory paradigm takes an emancipatory view of the world; qualitative; emancipatory e.g. critical social theory; feminist theory
- Interpretive approach
  - In this interpretivist paradigm, the researcher believes in the existence of multiple truths rather than a single universal truth; qualitative; naturalistic (constructivist); contextual e.g. descriptive exploratory; phenomenology; grounded theory; ethnography.

A simplified comparison of positivist, critical and interpretive approaches

	Positivist	Critical	Interpretive
Position	Empirico-analytical, reductionist	Post-positive, postmodern, post-structural, emancipatory	Post-positive, postmodern, naturalistic
Methodology	Experimental, quasi-experimental, correlational etc	Feminist research, action research, critical ethnology etc	Phenomenology, grounded theory, ethnography, exploratory/descriptive, case study, historical, Delphi
Data collection	Experiments, closed surveys and interviews	Open observation or interviews, focus groups	Open observation or interviews, focus groups
Researcher position	Distant	Close	Close

Week 2 – First steps of the research process

Part 1 - Identifying the problem and search the literature

Researchable problems are identified through;

- Personal experience
- Investigation of a particular nursing or midwifery practice in the clinical area
- Evaluation of the effectiveness of an intervention or understand how or why it works
- State of knowledge in the field
- Hot topics under discussion
- Gaps in the research and theoretical literature

The significance of research problem statements to nursing or midwifery

- the significance of research problem statements should be in relation to:
  - potential for patients, health professionals, community and society to benefit from the study
  - extending the knowledge base of nursing and midwifery
  - providing theoretical relevance
  - findings supporting untested assumptions
  - findings informing nursing and midwifery practices or polices

PIC (qualitative question) or PICO (quantitative questions)

Are acronyms that describe the elements of a research question.

It is important to have a clear and detailed idea of the question to be answered. A well-defined question is essential to start your search on the literature. It's important that you are clear about what you are asking, the question will define many of the subsequent steps in the study. In terms of the literature search or literature review it will determine what studies should be included.

P	I	C
Population	Interest	Context
What are the characteristics of the patient or population?	The phenomena of interest relate to a defined event, activity, experience or process	Context is the setting or distinct characteristics