NMNEC Concept: **Evidence**

Mega Concept: Professional Nursing

Category: Care Competencies

Concept Name: Evidence

Concept Definition:
The acquisition and application of scientific research as it relates to health care delivery.

Scope/Types:
Evidence and research are closely associated with the sciences. Evidence-based health care is fundamental to all nursing care, in all environments.

- **Scope:** The scope ranges from the discovery and generation of evidence to the delivery of nursing care. Research provides evidence of process evaluation in the delivery of health care and support for the effectiveness of interventions. It is used to support or discard interventions and expectations about health and health care delivery. Research that generates evidence includes data collection, evaluation, comparison with other research, and identification of implications for practice. Translational research seeks to facilitate the application of current evidence into clinical practice. Evidence-based practice is an integration of the evidence base, care participant preferences and values, and clinical expertise.
- **Types:** Research is disseminated through literature, both digital and print, and other means of professional communication, such as conferences.
    - **Primary literature:** Reports of original research
        - *Quantitative research* starts with a research question or hypothesis about health and illness, relationships of variables, cause and effect, or effectiveness of interventions. Quantitative data are measurable and can be analyzed using numeric and statistical methods.
        - *Qualitative research* seeks to understand what the meaning of an experience is to individuals, such as the experience of diabetes or loss. Qualitative data are usually what participants describe, in their own words, to explore a health care experience in depth. These findings are evaluated for its meaning. The data are usually words and the process explores the topic deeply. Qualitative research helps nurses to understand the issues and meaning of an experience and can help identify needs and possible interventions, which may then be

developed and tested by further research.

- *Mixed methods research* uses a combination of qualitative and quantitative design strategies to explore a health care phenomenon.

o **Secondary literature**

- *Summaries* are brief analyses of individual studies that seek to meet the demand for brief, succinct information in the midst of an ever-increasing amount of available information.
- *Systematic reviews* collect, synthesize, and integrate the studies on a topic. These reviews are very helpful in evaluating the evidence supporting or refuting a research question.
- *Meta-analyses* are systematic reviews that use statistical methods to summarize the research on a topic. Well-performed systematic reviews and meta-analyses are the strongest forms of evidence.
- *Clinical practice guidelines* have become crucial support for evidence-based practice. Guidelines are developed by expert panels, such as government agencies (e.g., U.S. Preventive Services Task Force) or organizations (e.g., Association of Women's Health, Obstetric, and Neonatal Nurses). These practice guidelines establish a standard of practice that is evidence based. The Agency for Healthcare Research and Quality has compiled many guidelines in the National Guideline Clearinghouse. See http://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/index.html for information on how to access the guidelines since guidelines are not going to be available on a National Guideline Clearinghouse website site after July 2018 unless funding is found for the site.

Attributes/Criteria:

Levels of Evidence: The quality of the evidence is paramount in considering its clinical usefulness. Methods have been developed to indicate how trustworthy evidence is, as well as recommendations for use in practice. These methods are still being developed and revised.

There are a number of different rating or grading systems that assess the quality and relative worth of research literature. One such system ranks systematic reviews, meta-analyses of randomized controlled trials, and evidence-based practice guidelines as the highest level of evidence (LoBiondo-Wood and Haber, 2014). Opinion of authorities and/or reports of expert committees are the lowest-rated forms of evidence in this scale.

The U.S. Preventive Services Task Force (2013) has developed a grading system (and level of certainty scale) to determine health outcome effects for many health promotion activities, based on research and clinical evidence:

- Grade A = Recommends the service. There is high certainty that the net benefit is substantial. Offer or provide this service.
- Grade B = Recommends the service. There is high certainty that the net benefit is moderate to substantial. Offer or provide this service.
- Grade C = Clinicians may provide this service to selected patients depending on individual circumstances. However, for most individuals without signs or symptoms, there is likely to be only a small benefit from this service. Offer or provide this service only if other considerations support the offering or providing the service in an individual patient.
- Grade D = Offer or provide this service only if other considerations support the offering or providing the service in an individual patient. Discourage the use of this service.
- I Statement = Insufficient evidence to assess the benefit versus harm.

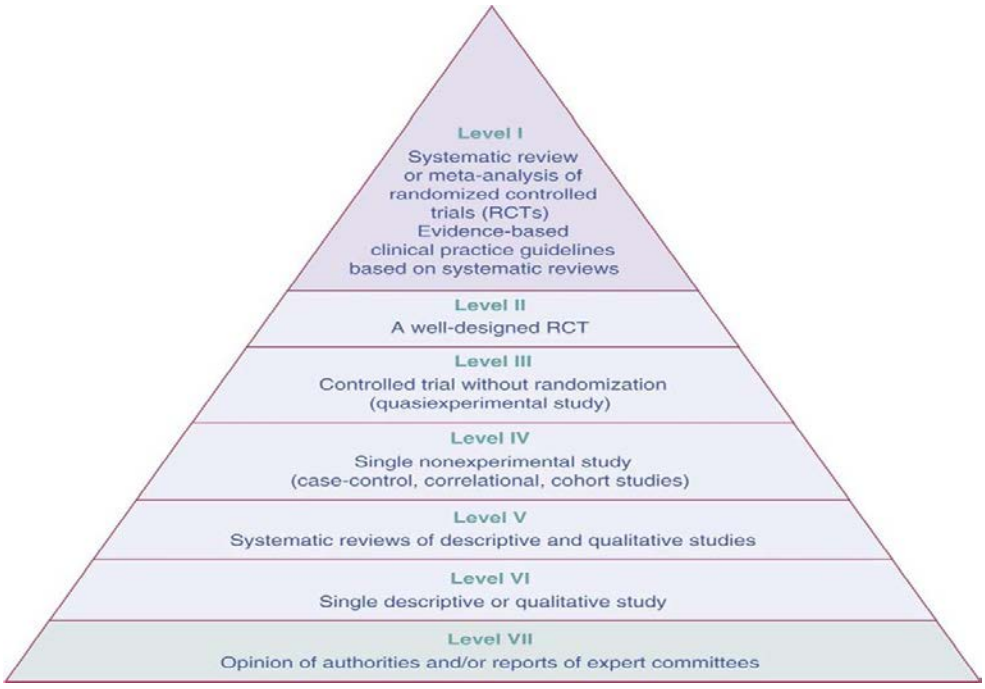

FIGURE 1-1 Levels of evidence: evidence hierarchy for rating levels of evidence, associated with a study's design. Evidence is assessed at a level according to its source. (From LoBiondo-Wood and Haber, 2014, p. 15).

Level of Certainty Regarding Net Benefit:

- High = Consistent results from well-designed, well-conducted studies in representative primary care populations.
- Moderate = Available evidence sufficient to determine the effects on health outcome, but with less confidence.
- Low = Available evidence insufficient to assess effects on health outcome.

Use caution with evidence found on the Internet. There are multiple motives, including financial, for posting false and misleading material. Confirm that the material is from a knowledgeable and accurate source. The Health on the Net Foundation (https://www.hon.ch) has developed tools to help assess and certify the reliability of online health information.

Theoretical Link:

Several models have been suggested for implementing evidence-based practice. One nursing practice model is summarized below:

- Johns Hopkins Nursing Evidence-Based Practice Model and Guidelines (Newhouse, Dearholt, Poe, Pugh, & White, 2007)
    - Promote effective nursing interventions
    - Provide efficient and safe nursing care
    - Improve patient outcomes
    - Provide best available evidence for nursing decision making:
        - Clinical
        - Administrative
        - Educational settings

Within the Context of Nursing/Health Care:

- **Nurses as Consumers of Evidence**. Evidence-Based Practice: "Integrate best evidence with clinical expertise and patient/family preferences and values for delivery of optimal health care" (Quality and Safety Education for Nurses [QSEN], 2013). Evidence-based practice is the basis of professional nursing practice—the professional nurse uses evidence as a basis of practice, with patient participation and the nurse's own nursing skill and judgment.
    - Consult policy and procedure manuals
    - Find solutions to practice questions/problems:
        - Develop an answerable question
        - Search the literature for evidence to answer the question
        - Evaluate evidence found

- Apply evidence to practice situation
- Evaluate the outcome

Knowledge, Skills, and Attitudes:
(Reprinted from QSEN, 2018, Evidence-Based Practice section, para. 1):

- **Knowledge**
  - Demonstrate knowledge of basic scientific methods and processes. Describe EBP [evidence-based practice] to include the components of research evidence, clinical expertise and patient/family values.
  - Differentiate clinical opinion from research and evidence summaries. Describe reliable sources for locating evidence reports and clinical practice guidelines.
  - Explain the role of evidence in determining best clinical practice. Describe how the strength and relevance of available evidence influences the choice of interventions in provision of patient-centered care.
  - Discriminate between valid and invalid reasons for modifying evidence-based clinical practice based on clinical expertise or patient/family preferences.

- **Skills**
  - Participate effectively in appropriate data collection and other research activities.
  - Adhere to Institutional Review Board guidelines.
  - Base individualized care plan on patient values, clinical expertise and evidence.
  - Read original research and evidence reports related to area of practice. Locate evidence reports related to clinical practice topics and guidelines.
  - Participate in structuring the work environment to facilitate integration of new evidence into standards of practice. Question rationale for routine approaches to care that result in less-than-desired outcomes or adverse events.
  - Use evidence to inform own nursing practice.
  - Consult with clinical experts before deciding to deviate from evidence-based protocols.

- **Attitudes**
  - Appreciate strengths and weaknesses of scientific bases for practice.
  - Value the need for ethical conduct of research and quality improvement.
  - Value the concept of EBP as integral to determining best clinical practice.
  - Appreciate the importance of regularly reading relevant professional journals.
  - Value the need for continuous improvement in clinical practice based on new

knowledge.
  - Acknowledge own limitations in knowledge and clinical expertise before determining when to deviate from evidence-based best practices.

Interrelated Concepts:

- Safety—Evidence supports the patient safety initiatives.
- Health Policy—Policies that support best practices are based on evidence.
- Technology and Informatics—Technology and informatics have profoundly impacted the collection of data and the dissemination of evidence. Quality improvement in health care is monitored and supported by the evidence of outcomes.
- Health Care Economics—Evidence is essential in determining treatment efficacy and cost-containment measures, both important factors in health care economics.
- Health Care Quality—Improvement in health care quality is supported by evidence.
- Ethics—Evidence-based practice supports the nurse's ethical commitment to beneficence and non-malfeasance. Ethical considerations and protection of human participants are a critical component of health care research.

Exemplars:

New Mexico Nursing Education Consortium (NMNEC) Required Exemplars:

- Primary literature
  - Quantitative research
  - Qualitative research
  - Mixed methods design
- Secondary literature
  - Summaries
  - Systematic reviews
  - Meta-analyses
  - Clinical practice guidelines
  - Evidence-based practice

References:

Agency for Healthcare Research and Quality. (2013, January) National Guideline Clearinghouse. Retrieved from http://www.guideline.gov/index.aspx. Note: not available after July 2018.

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Resources:

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