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Introduction

- The word research is composed of two words 'Re' and 'Search'. Re means once again, a new, a fresh. Search means to look for something or examine closely, to look for information.
- Therefore research means close and careful examination of facts and their relationships to discover new knowledge.

NEED & PURPOSE OF RESEARCH

- Develop, Refine & Extend the scientific base of knowledge which is required for quality nursing care, education and administration
- Enhance the body of professional knowledge in Nursing.
- Provide foundation for Evidence based Nursing practice
- Help in expansion of knowledge, which is essential for continued growth of nursing profession.

- Refine and Eliminate old knowledge so that it helps in elimination of nursing actions that have no effect on achievement of desired client outcomes.
- Develop & refine nursing theories and principles
- Solve the problem or answer questions related to Nursing Practice, Nursing Education and Nursing Administration.

DEFINITION

• Research is defined as a systemic and scientific process to answer to questions about facts and relationship between facts. It is an activity involved in seeking answer to unanswered question.

• Research is defined as a systemic method of exploring, describing, explaining, relating or establishing the existence of phenomenon the factors that cause change in the phenomenon influences other phenomenon.

• Research is defined as a systemic inquiry that uses disciplined methods to answer questions or solve problems. The ultimate goal of research is to develop, define, refine and expand a body of knowledge for a discipline.

NURSING RESEARCH

DEFINITION

- It is a way to identify new knowledge, Improve Professional education and practices and use of resources effectively.
 - International Council of Nurses

Nursing Research

• As the "systematic, objective process of analyzing phenomena of importance to nursing."

(Nieswiadomy, 2008)

Nursing Research:

•Nursing Research is "a systematic collection and analysis of data to illuminate and describe or explain new facts and relationships."

(Treece & Treece - 2008)

• Nursing Research develops knowledge about health and promotion of health over full life span, care of person with health problems and disabilities to respond effectively to actual or potential health problems.

-(ANA, 1981)

•Research is a scientific, systematic, controlled, orderly, and objective investigation to develop, refine and expand body of knowledge.

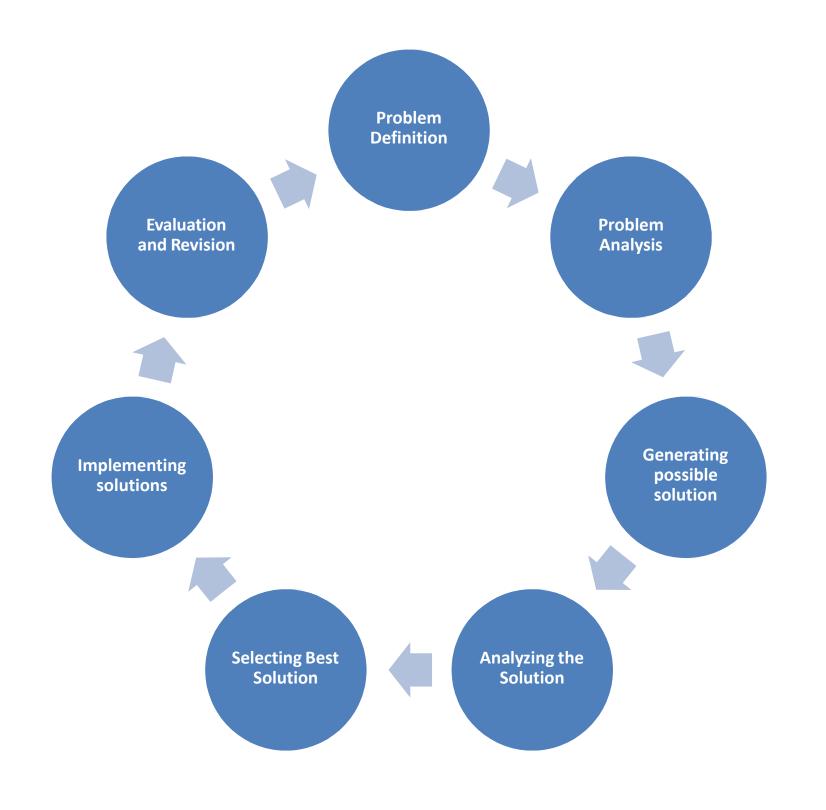
•DEFINITION OF NURSING RESEARCH

•Nursing research is defined as a systematic search for knowledge about issues of importance to nursing.

Polit and Hungler

PROBLEM SOLVING PROCESS

- Problem Identification
- Problem Analysis
- Generating possible solution
- Analyzing the Solution
- Selecting Best Solution
- Implementing solutions
- Evaluation and Revision



Problem Identification:

There is a need to write down what exactly the problem entails, which helps to identify the real problem that is under study and needs are immediate solution.

• Problem Analysis:

The next step is to analyse how the problem affects the researcher and his or her current situation and the other people involved in the situation.

• Generating possible solutions:

At this stage focus must be on identifying and generating all possible solutions for a problem.

Analysing the Solution:

In this section various factors about each of the potential solutions are investigated, where in all positive and negative aspects of each solution are analysed.

• Selecting Best Solution:

An attempt is made to compare the available solutions and eventually the best solution is selected based on careful judgement which is supposed to solve the problem swiftly and smoothly.

• Implementing Solution:

This is the final step to practically solve the problem by implementing the selected solutions.

Evaluation and Revision:

An evaluation is made to judge the effectiveness of the solution in resolving the problem. This stage helps to redefine the problem and revise the problem solving process in case the initial solution fails to manage the problem effectively.

Scientific Methods

DEFINITION

• Scientific methods are defined as controlled, systematic investigations that are rooted in objective reality & that aim to develop general knowledge about natural phenomena.

PURPOSES

• The basic purposes of scientific methods are description, exploration, explanation, prediction, control, prescription, & identification of relationship of the facts.

STEPS OF SCIENTIFIC METHODS

- Selecting the topic & identifying the research problem
- Defining the objectives of the study.
- Reviewing the literature from theory & other related studies.
- Defining concepts & variables to be studied.
- Stating hypothesis about expected observations or phenomenon to be studied.

- Identifying assumptions & implications.
- Determining the ethical implication of the proposed study.
- Describing the research design & methods for data collection.
- Defining study population & sample.
- Planning the data analysis & discussion.
- Collecting data from subjects.
- Analyzing &interpreting data.
 Communicating finding of the study.

LIMITATIONS OF SCIENTIFIC METHODS

- 1. Moral or ethical problem
- 2. Human complexity
- 3. Measurement problems
- 4. External variable control problems

CHARACTERISTICS OF GOOD RESEARCH

- Orderly and Systemic process
- Based on current professional issues
- Begin with clearly defined purposes
- Emphasize to Develop, Refine And Expand professional knowledge
- Directed towards development or testing theories

- Finding solution of a problem
- Dedicated to develop empirical evidence
- Strive to collect first-hand information/ data
- An objective and logical process
- Use of appropriate methodology
- Conducted on representative sample
- Use of valid and reliable data collection tool

- Carefully recorded and reported
- Adequately and appropriately analysed research
- Patiently carried out activity
- Adequately communicated
- Researcher's expertise, interest, motivation & Courage

•TYPES OF RESEARCH (or)

KINDS OF NURSING RESEARCH:

Research can be classified based on several criteria. However, basically, research is classified based on either an approach of studying the variable or the purpose of conducting the research.

Based on approach

Mixed method

- Convergent research
- Explanatory sequential research
- Exploratory sequential research
- Embedded research

Qualitative research

- Phenomenology research
- Ethnography research
- Grounded theory research
- Case study research
- Historical research

Quantitative research

- True experimental research/ randomized controlled trial
- Quasi-experimental research
- Nonexperimental research
- Descriptive research

Exploratory research Correlational research

Based on purposeBasic researchApplied research

Based on approach

Quantitative research:

It is an inquiry into an identified problem, based on testing a theory composed of variables, measured with numbers and analysed using statistical techniques.

- In this type of research data is collected in numerical form and analysed by using descriptive or inferential statistics.
- Quantitative research involves analysis of numerical data.
- Quantitative research is often an iterative process whereby evidence is evaluated, theories and hypotheses are tested, and technical advances are made.
- The three major types of quantitative research designs are experimental, quasi-experimental, and non experimental research designs.

• Qualitative research:

- Qualitative research is a field of inquiry that crosscuts disciplines and subject matter.
- It involves an in-depth understanding of human behaviour and the reasons that govern human behaviour.
- Here, data is collected in descriptive form rather than numerical form and analysed by descriptive coding, indexing, and narrations.

• Quantitative Research:

It is an inquiry into an identified problem, based on testing a theory composed of variables, measured with numbers and analyzed using statistical technique.

In this type of research data is collected in numerical form and analyzed by using descriptive or inferential statistics.

• Qualitative Research:

It is field of enquiry that crosscuts disciplines and subject matter. It involves indepth understanding of human behavior and the reasons that govern human behavior.

• Basic Research:

Is performed without a specific purpose in mind. It is used to generate and expand theories that describe, explain or predict a phenomenon of interest to the discipline without regard to its immediate use.

• Applied Research:

It refers to those studies which have functional purposes and practical use or application. They focus on finding an immediate solution to an existing problem.

RESEARCH PROCESS OVER VIEW

INTRODUCTION

• The research process can be simplified using the diagram below. The left column uses simple language to explain the research process and the right column uses language more common in the research literature. Both columns explain the research process.

• Definition:-

- It is the systematic manner in which a researcher approaches their area of study to produce knowledge which the community will consider to be worthwhile within the field.
- There are four principles stages in the research process that we will cover here:
- Inquiry
- Collection
- Organization
- Presentation

SCIENTIFIC RESEARCH:

- The <u>scientific method</u> is the usual way of doing this kind of research.
- It is meant to improve understanding of <u>biology</u>, <u>engineering</u>, <u>physics</u>, <u>chemistry</u> and many other fields.
- With this kind of research, <u>scientists</u> can understand the world, and discover useful things.
- Money for research comes from <u>governments</u>, private <u>corporations</u>, and <u>charities</u>. Some of these organizations combine <u>research and</u> <u>development</u> of new products and ways of doing their work.

BASIC PRINCIPLES OF RESEARCH:

- **Systematic:** from a <u>hypothesis</u> or working objective, researchers gather data according to a scheme set out in advance. They use the data to change ideas or add new knowledge to that already existing. The approach used in research is the <u>scientific method</u>.
- *Organized*: members of a research group use the same definitions, standards and principles. This is part of the detailed plan.
- *Objective*: conclusions from research must be based on observed and measured <u>facts</u>, not on <u>subjective</u> impressions. The conclusions should be unbiased.

BASIC ACTIVITIES OF RESEARCH PROCESS:

Studying available <u>information</u> on the subject.

- Physical or computer modeling.
- Measuring the phenomena.
- Comparing the obtained results.
- Interpreting the results with the current knowledge, considering the variables which might have influenced the result.

STEPS OF RESEARCH PROCESS

RESEARCH PROCESS

PHASES

- Conceptual phase
- Designing and planning phase
- Empirical phase
- Analytic phase
- Dissemination phase

Conceptual phase

- > Formulating and delimiting the problem
- > Reviewing the related literature
- > Under taking clinical field work
- Defining the framework and development of conceptual definitions
- > Formulating hypothesis



Designing and planning phase

- > Selecting a research design.
- > Developing protocol for intervention
- > Identifying the population to be studied.
- > Designing the sample plan.
- > Specifying the method to measure the research variable.
- Developing methods for safeguarding human / animal rights.
- Finalizing and reviewing the research plan. (pilot study.)

Empirical phase

- > Collecting the data
- > Preparing the data for analysis.

Analytic phase

- > Analyzing the data
- > Interpreting the result

Dissemination phase

- Communicating the findings
- > Utilizing the finding in practice.

QUANTITATIVE RESEARCH PROCESS

- Formulation of Research problem
- Determining study objectives
- Review of Literature
- Developing Conceptual framework
- Formulating Hypothesis/Assumptions
- Selecting Research Approach
- Specifying the population

Cont...

- Developing tools for data collection
- Establishing Ethical consideration
- Conducting Pilot Study
- Sample Selection
- Data collection
- Preparing Data for analysis
- Analysis and Interpretation of Data
- Disseminating the Research findings

QUALITATIVE RESEARCH PROCESS

- Identifying Research Problem area
- Formulating broad study objectives
- Review of literature
- Entry in research settings
- Selecting research approach
- Select a small sample

Cont...

- Establishing Ethical consideration
- Plan tools for data collection
- Data Collection
- Organize data for analysis
- Analysis and Interpretation of Data
- Disseminating the research findings

CHARACTERISTICS OF GOOD RESEARCH

• CHARACTERISTICS OF GOOD RESEARCH:

• Research employs scientific methods. Good research is systematic, logical, empirical, and also replicable. However, one expects that a good research must satisfy the following criteria:

Orderly and systematic process: A research can only be considered good if it is conducted in an orderly and systematic way, because this is the most important criterion for a scientific research process.

Based on current professional issues: Resolving current issues of an discipline is one of the fundamental purposes of any research. Therefore, a good research must be based on the current professional issues, so that a particular discipline can be up to date with solutions to professional concerns.

Begin with clearly defined purposes:

•A research can only be conducted in an effective manner if it is started with clearly defined purposes. In the absence of clarity about objectives, research may not yield very good results.

•Emphasize developing, refining and expanding professional knowledge:

- The main purpose of research is to develop new knowledge or refine the existing professional knowledge.
- •Ever expanding professional body of knowledge is the most important need of any profession.
- ■Therefore, a good research is always directed towards expansion of professional body of knowledge.

- •Directed towards development or testing theories:
- •Theory development and testing is a systematic process of enquiry in a discipline. Therefore, only a good research can make it possible to develop or test a theory.

•Finding solution of a problem:

- •Finding answer or solution to professional problem is another important purpose of research.
- •Therefore, a good research is always directed towards finding an answer or solution for the pertinent emerging professional problems.

- •Dedicated to develop empirical evidence:
- •Another important purpose of the research is to generate empirical evidences, which can be used to improve the professional practices. Therefore, a good research always strives to develop empirical evidences.

- •Strive to collect first-hand information/data:
- •A successful research is conducted by collection of data directly from subjects by different methods like questioning, interviews, or observation.
- •An objective and logical process:
- •Research information collected through subjective means or in haphazard manner will never lead to satisfactory results. Therefore, a good research emphasizes on objective and logical research process.

- •Generate findings to refine and improve professional practices:
- •A research cannot be considered successfully conducted until and unless it contributes towards refinement and improvement in professional practices as per the need of time.
- Use of appropriate methodology:
- •Selection of a methodology in any research depends on several factors, because each variable and research has unique features.

 Therefore, a good research always employs the most appropriate and suitable methodology.

- •Conducted through appropriate use of methods and tools of data collection
- •Based on the nature of phenomenon and subjects under study, methods and tools of data collection will be different.
- •Therefore, only the most appropriate and suitable methods and tools of data collection can lead to successfully conducted research. For example, questionnaire cannot be used for illiterate subjects or a performance can only be measured through observation methods.

- •Conducted on representative sample:
- •Generalization of research findings is only possible if study is conducted on a sample which has characteristics similar to the population of the study. Therefore, a good research is conducted on a representative sample.

RESEARCH HISTORY

INTRODUCTION

- The word research means "to search again" or "to
- examine carefully".
- Research is systematic inquiry, or study to validate
- and refine existing knowledge and develop new
- knowledge.
- The ultimate goal of research is the development of
- a body of knowledge for a discipline or profession such as nursing

Significance of Nursing Research:

- Research will help the development and generation of knowledge in each area of specialization.
- It is helpful in evidence-based practice. Research findings give first-hand experience on which evidence-based nursing practice can be build upon.
- Improvement in nursing education and nursing management is possible through research studies.
- Research will help in standardization and refining nursing practice.

HISTORY OF NURSING RESEARCH:

- 1850s:Florence Nightingale studied nursing care during the Crimean War. She called for research that focused on nursing practice.
- 1902: Lavinia Dock reported a school nurse "experiment" that was begun by Lillian Wald. Nurses gave free care to school children and visited the homes of sick children.
- 1906: Adelaide Nutting conducted a survey of the educational status of nursing.
- 1909: The first university-based nursing program was established at the University of Minnesota

- 1923 : A well-known study of nursing and nursing education was conducted by the Committee for the Study of Nursing Education and funded by the Rockefeller Foundation.
- 1924: The first doctoral program for nurses was established in 1924 at Teachers College, Columbia University.
- 1927: Jean Broadhurst and her colleagues reported a research investigation on handwashing procedures.
- Edith S. Bryan became the first nurse to earn a doctoral degree when she received a PhD in psychology and counseling from Johns Hopkins University.

- 1928: Ethel Johns and Blanche Pfefferkorn published a study concerning the activities in which nurses were involved.
- This study was one of the first of many studies that focused on nurses.
- 1932 :Elizabeth Ryan and Virginia B. Miller investigated thermometer techniques .
- 1936: Sigma Theta Tau, National Honor Society for Nursing, began funding nursing research.
- 1948: Esther Lucille Brown, a social anthropologist, published her famous study on nursing education, Nursing for the Future, which called for nursing education to take place in university settings.

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- 1949: The Division of Nursing Resources was organized within the U.S. Public Health Service. Esta H. McNett demonstrated the usefulness of masks in preventing the spread of tuberculosis.
- 1952: The first issue of Nursing Research was published.
- 1953: The Institute of Research and Service in Nursing Education was founded at Teachers College, Columbia University.
- 1955: The American Nurses Foundation was established with the goal of promoting high-level wellness and the improvement of patient care. The Nursing Research Grants

NURSING RESEARCH FELLOWSHIP PROGRAMMS IN U.S

1957: The first unit directed primarily toward research in nursing practice was established at the Department of Nursing of the Walter Reed Army Institute of Research.

The Western Council for Higher Education in Nursing (WCHEN) sponsored a nursing research conference at the University of Colorado.

- 1962: The federally supported Nurse Scientist Graduate Training Grants Programs were begun.
- 1963:Lydia Hall published her 5-year study of chronically ill patients who were cared for at the Loeb Center in New York.

- 1970: The National Commission for the Study of Nursing and Nursing Education, established by the American Nurses Association (ANA) and the National League for Nursing (NLN), published the results of a 3-year study on nursing ed in both nursing practice and nursing education sample but not necessarily.
- 1972 : The ANA established a Department of Nursing Research.
- 1974: At its national convention, the ANA delineated nursing practice as the area to which nursing research should be directed in the next decade.

- 1976: The Commission on Nursing Research of the ANA recommended that research preparation be included in undergraduate, graduate, and continuing education programs.
- 1977: The Veterans' Administration began employing nurse researchers.
- 1978: The first issue of Research in Nursing and Health was published.
- 1980: The Commission on Nursing Research of the ANA set up a list of research priorities for the 1980s.
- 1982: Eleven volumes were published of the work of the Conduct and Utilization of Research in Nursing (CURN) project.
- 1983: The first Center for Nursing Research was established. It encompassed the American Nurses Foundation and the American

- 1986: The National Center for Nursing Research (NCNR) was established within the National Institutes of Health.
- 1987: Dr. Ada Hinshaw, director of the NCNR, called for nursing organizations to identify their research priorities.
- 1988: The NCNR convened the first Conference on Research.
- 1992: The first issue of Clinical Nursing Research was published.
- 1993: The National Institute of Nursing Research (NINR) was established within the National Institutes of Health (NIH).
- 1994: The first issue of Qualitative Nursing Research was published. This organization replaced the NCNR. The second Conference on Research Priorities was held to establish research priorities for 1995–1999.

- 1997: The International Council of Nurses convened a group of experts to establish worldwide nursing research priorities.
- 1999: The first issue of Biological Research for Nursing was published.
- 2001: The budget for NINR reached almost \$90 million.
- Dr. Farrell and Dr. Bhaduri's book Health Research: A Community based Approach was published by World Health Organization (WHO).
- 1982: The major development during this period was the organization of the national conference "Nursing Research in India: Prospect and Retrospect".
- 1984: The University Grants Commission conducted a workshop on nursing research.



EVIDENCE BASED PRACTICE

INTRODUCTION

- During 1980s the term "evidence-based medicine" emerged to describe the approach that used scientific evidence to determine the best practice. Evidence based practice movement started in England in the early 1990s
- Evidence-based medicine (EBM) or evidence based practice (EBP), is the judicious use of the best current evidence in making decisions about the care of the individual patient.
- Evidence-based practice represents both an ideology and a method. The *ideology* springs from the ethical principle that clients deserve to be provided with the most effective interventions possible. The *method* of EBP is the way we go about finding and then implementing those interventions.

DEFINITIONS

• Evidence: It is something that furnishes proof or testimony or something legally submitted to ascertain in the truth of matter.

• Evidence based practice: It is systemic inter connecting of scientifica generated evidence with the tacit knowledge of the expert practitioner achieve a change in a particular practice for the benefit of a well- defined clie / patient group. (French 1999).

CONTD...

• Evidence based nursing- it is a process by which nurses make clinical decisions using the best available research evidence, their clinical expertise and patient preferences (mulhall, 1998).

• Evidence based medicine or practice- The conscientious, explicit and judicious use of current best evidence in making decision about the care of individual patient. (Dr. David Sackett, Rosenberg, 1996)

CONTD....

 EBP in nursing is a way of providing nursing care that is guided by the integration of the best available scientific knowledge with nursing expertise. This approach requires nurses to critically assess relevant scientific data or research evidence and to implement high quality interventions for their nursing practice. (NLM PubMed)

NEED FOR EBP

 For making sure that each client get the best possible services.

 Update knowledge and is essential for lifelong learning.

Provide clinical judgement.

Improvement care provided and save lives.

GOAL OF EBP

 Provide practicing nurse the evidence based data to deliver effective care.

Resolve problem in clinical setting.

Achieve excellence in care delivery.

 Reduces the variations in nursing care and assist with efficient and effective decision making.

STEPS IN EBP

ASK

Frame focused question(s) to be answered by the evidence review

ACQUIRE

Identify sources and collect potentially relevant studies

APPRAISE

Create an evidence base by applying screening criteria related to topic, questions, practices, and outcomes

ANALYZE

Standardize, summarize and rate strength of body of evidence (study characteristics, quality, effect size, and consistency)

APPLY

Disseminate findings for review and local application

AUDIT/ASSESS

SORCES OF EVIDENCE

- Research evidence has assumed priority over other sources of evidence in the delivery of evidence based health care.
- It includes
- Filtered resources- Clinical experts and subject specialist pose a question and then synthesise evidence to state conclusion based on available research. These sources are helpful because the literature has been searched and results evaluated to provide an answer to clinical question.
- Unfiltered resources (Primary literature)- It provides most recent information. E.g MEDLINE, CINHAL etc provides primary and secondary literature for medicine.

Contd....

- Clinical experiences- Knowledge through professional practice and life experiences makes up the second part in the evidenced based, person-centered care.
- Knowledge from patients- Evidence delivered from pt's knowledge of themselves, their bodies and social lives.
- Knowledge from local context-

Audit and performance data

Patient stories and narratives

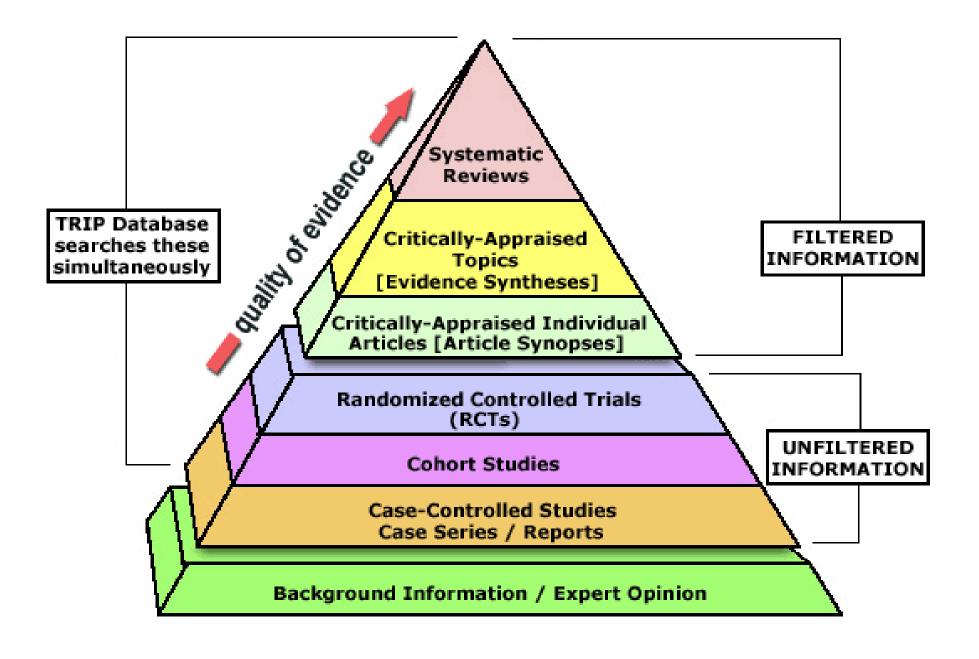
Knowledge about the culture of the organization & individuals within it.

Social & professional networks.

Information from feedback

Local & national policy.

Hierarchy of Evidence

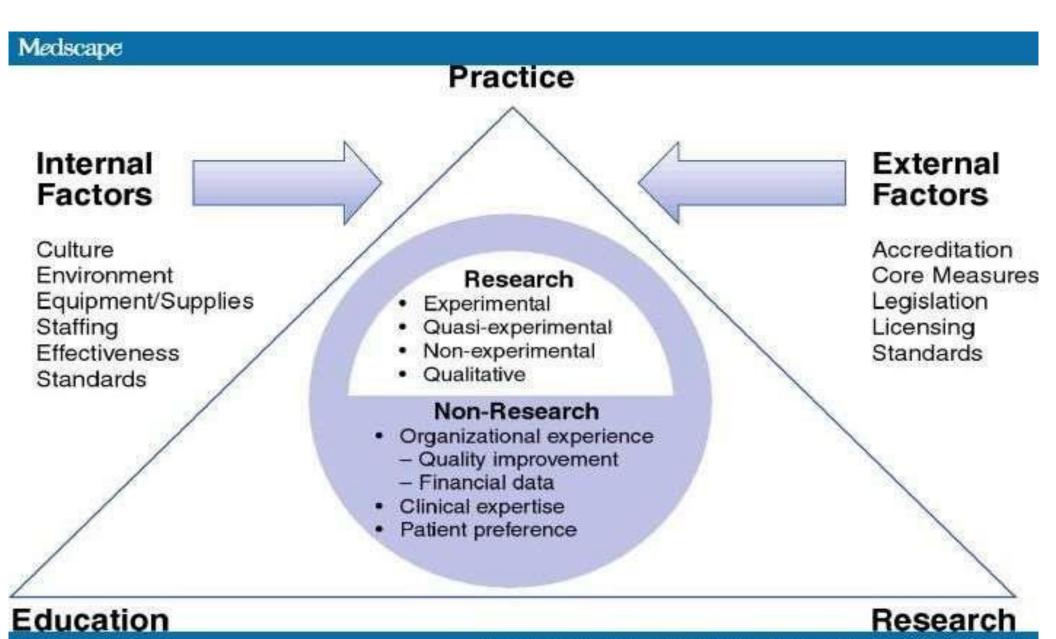


MODELS OF EBP

 John Hopkins nursing EBP Model- Used as a framework to guide the synthesis and translation of evidence into practice. (Newhouse, Dearholt, Poe, Pugh, & White, 2007).

- There are three phases to the JHNEBP model
- 1. The identification of an answerable question.
- 2. A systematic review and synthesis of both research and non-research evidence.
- 3. Translation includes implementation of the practice change as a pilot study, measurement of outcomes, and dissemination of findings.

JOHN HOPKINS NURSING EBP MODEL



IOWA model

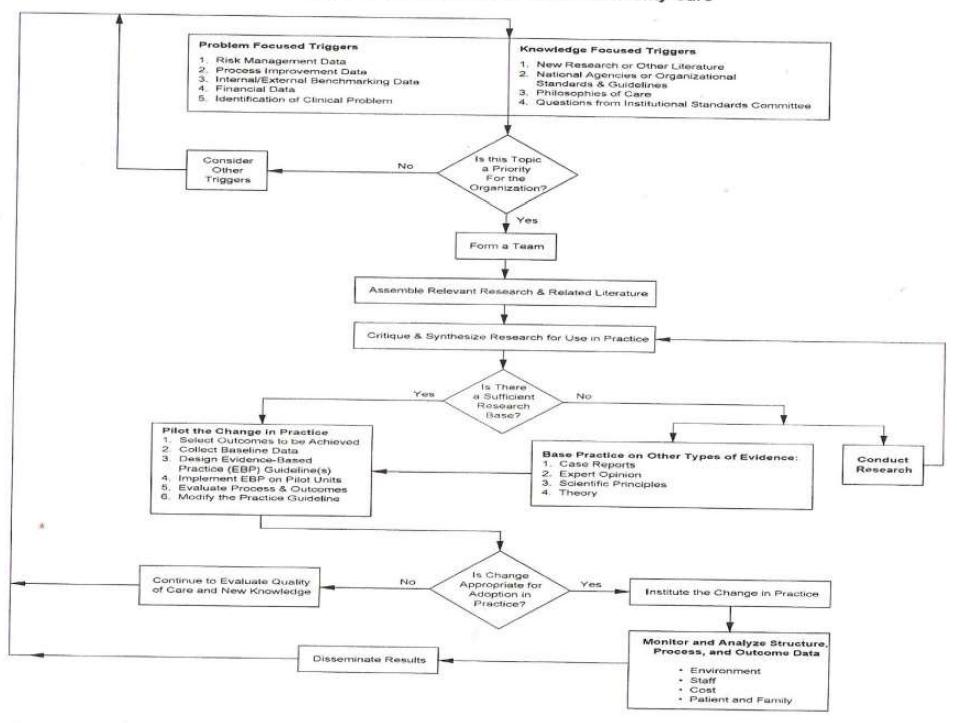
• The lowa model focuses on organization and collaboration incorporating conduct and use of research, along with other types of evidence. (Titler et al, 2001). It was originated in 1994.

The star point in the model can either be

- A knowledge focused trigger (that emerges from awareness of innovative research findings
- A problem- focused trigger (that has its root in a clinical or organizational problem)

The IOWA Model of EBP to Promote Quality Care

Evidence-Based Practice to Promote Quality Care



The Stetler Model

 This model examines how to use evidence to create formal change with organizations, as well how individual practitioners can use research on a informal basis as part of critical thinking and reflective practice.

- The Stetler model of evidence-based practice based on the following
- 1. Use may be instrumental, conceptual and/or symbolic/strategic.

Contd....

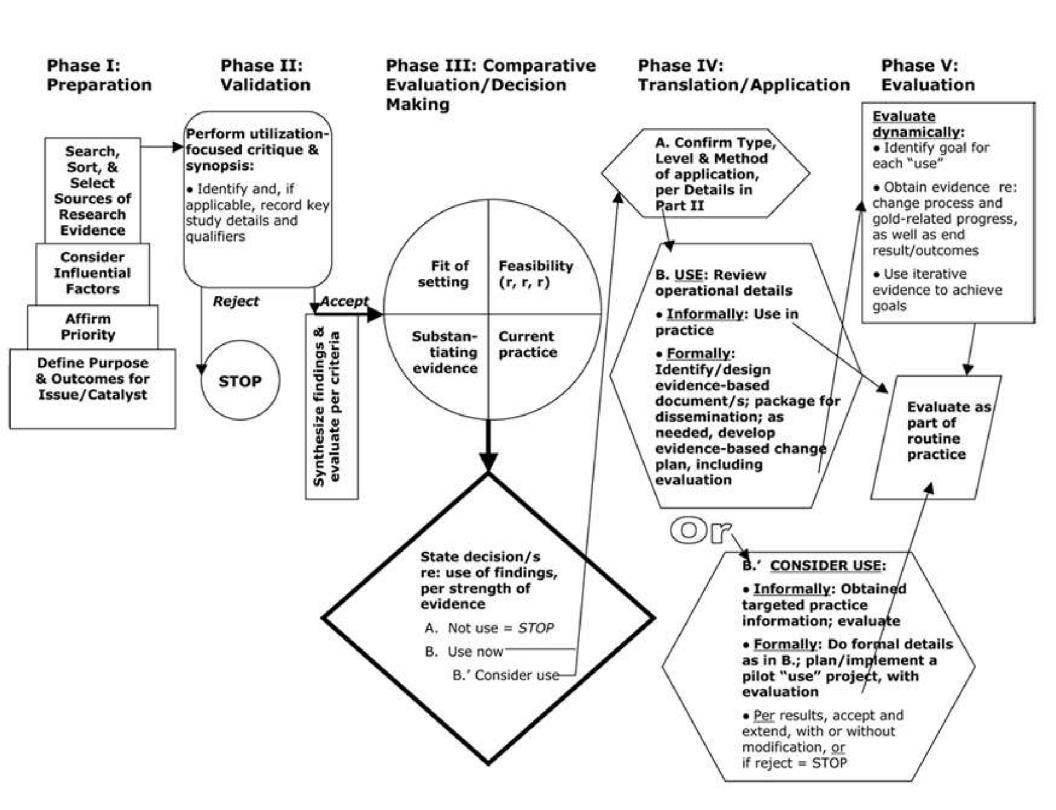
- 2.Other types of evidence and/or non-researchrelated information are likely to be combined with research findings to facilitate decision making or problem solving.
- 3.Internal or external factors can influence an individual's or group's review and use of evidence.
- 4.Research and evaluation provide probabilistic information, not absolutes.
- 5.Lack of knowledge and skills pertaining to research use and evidence-informed practice can inhibit appropriate and effective use.

This model consists of five phases. Each phase is designed to

 facilitate critical thinking about the practical application of research findings

 result in the use of evidence in the context of daily practice

 Mitigate some of the human errors made in decision making.



Barriers in EBP

- Lack of value for research in practice
- Difficulty in bringing change
- Lack of administrative support
- Lack of knowledge mentors
- Lack of time for research
- Lack of knowledge about research
- Research reports not easily available
- Complexity of research reports
- Lack of knowledge about EBP

Advantages of EBP

- Provide better information to practitioner
- Enable consistency of care
- Better patient outcome
- Provide client focused care
- Structured process
- Increases confidence in decision-making
- Generalize information
- Contribute to science of nursing
- Provide guidelines for further research
- Helps nurses to provide high quality patient care

Disadvantages of EBP

- Not enough evidence for EBP
- Time consuming
- Reduced client choice
- Reduced professional judgement/ autonomy
- Supress creativity
- Influence legal proceedings
- Publication bias

Research abstract

Translating research into practice: case study of a community-based dementia caregiver intervention. (Mittelman MS, Bartels SJ.)

Evidence from randomized clinical trials has demonstrated the effectiveness of providing psychosocial interventions for caregivers to lessen their burden. This case study describes outcomes of the implementation of an evidence-based intervention in a multisite program in Minnesota. Consistent with the original randomized clinical trial of the intervention, assessments of this program showed decreased depression and distress among caregivers. Some of the challenges in the community setting included having caregivers complete the full six counseling sessions and acquiring complete outcome data. Given the challenges faced in the community setting, web-based training for providers may be a cost-effective way to realize the maximum benefits of the intervention for vulnerable adults with dementia and their families.

CONCLUSION

Evidence-based nursing care is a lifelong approach to clinical decision making and excellence in practice. Evidence-based nursing care is informed by research findings, clinical expertise, and patients' values, and its use can improve patients' outcomes. Use of research evidence in clinical practice is an expected standard of practice for nurses and health care organizations, but numerous barriers exist that create a gap between new knowledge and implementation of that knowledge to improve patient care. Using the levels of evidence, nurses can determine the strength of research studies, assess the findings, and evaluate evidence for potential implementation into practice.

Thank you