RAMA UNIVERSITY

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Unit – I
Research and Research Process

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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.

Cont…

- 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.

Cont…

- 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.

Cont…

- 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)

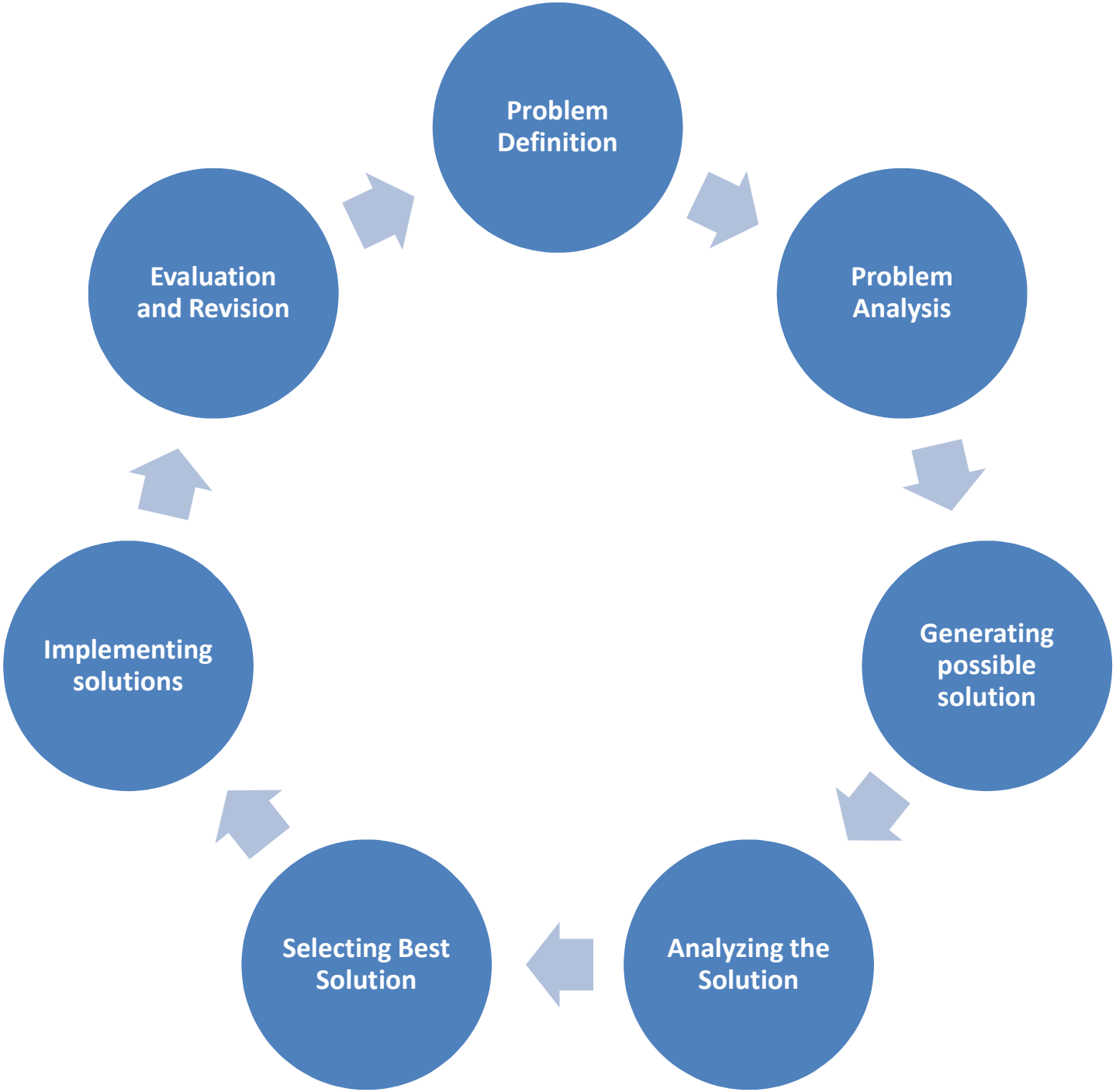
Cont…

- 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)

PROBLEM SOLVING PROCESS

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


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

Cont…

- **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.

Cont…

- **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.

Cont…

- **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.

Cont…

- **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

Cont…

- 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

Cont…

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

TYPES OF RESEARCH

- Research can be classified based on several criteria. It is based on either an approach of studying the variable (Quantitative and Qualitative research) or the purpose of conducting research (Basic and Applied research)

Cont..

- **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.

Cont…

- **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.

Cont…

- **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.

Cont…

- **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.

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