Introduction to Nursing Research

NSG 318

University of Ibadan Distance Learning Centre
Open and Distance Learning Course Series Development

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Vice-Chancellor's Message

The Distance Learning Centre is building on a solid tradition of over two decades of service in the provision of External Studies Programme and now Distance Learning Education in Nigeria and beyond. The Distance Learning mode to which we are committed is providing access to many deserving Nigerians in having access to higher education especially those who by the nature of their engagement do not have the luxury of full time education. Recently, it is contributing in no small measure to providing places for teeming Nigerian youths who for one reason or the other could not get admission into the conventional universities.

These course materials have been written by writers specially trained in ODL course delivery. The writers have made great efforts to provide up to date information, knowledge and skills in the different disciplines and ensure that the materials are user-friendly.

In addition to provision of course materials in print and e-format, a lot of Information Technology input has also gone into the deployment of course materials. Most of them can be downloaded from the DLC website and are available in audio format which you can also download into your mobile phones, IPod, MP3 among other devices to allow you listen to the audio study sessions. Some of the study session materials have been scripted and are being broadcast on the university's Diamond Radio FM 101.1, while others have been delivered and captured in audio-visual format in a classroom environment for use by our students. Detailed information on availability and access is available on the website. We will continue in our efforts to provide and review course materials for our courses.

However, for you to take advantage of these formats, you will need to improve on your I.T. skills and develop requisite distance learning Culture. It is well known that, for efficient and effective provision of Distance learning education, availability of appropriate and relevant course materials is a *sine qua non*. So also, is the availability of multiple plat form for the convenience of our students. It is in fulfilment of this, that series of course materials are being written to enable our students study at their own pace and convenience.

It is our hope that you will put these course materials to the best use.

Prof. Abel Idowu Olayinka

Vice-Chancellor

Foreword

As part of its vision of providing education for "Liberty and Development" for Nigerians and the International Community, the University of Ibadan, Distance Learning Centre has recently embarked on a vigorous repositioning agenda which aimed at embracing a holistic and all encompassing approach to the delivery of its Open Distance Learning (ODL) programmes. Thus we are committed to global best practices in distance learning provision. Apart from providing an efficient administrative and academic support for our students, we are committed to providing educational resource materials for the use of our students. We are convinced that, without an up-to-date, learner-friendly and distance learning compliant course materials, there cannot be any basis to lay claim to being a provider of distance learning education. Indeed, availability of appropriate course materials in multiple formats is the hub of any distance learning provision worldwide.

In view of the above, we are vigorously pursuing as a matter of priority, the provision of credible, learner-friendly and interactive course materials for all our courses. We commissioned the authoring of, and review of course materials to teams of experts and their outputs were subjected to rigorous peer review to ensure standard. The approach not only emphasizes cognitive knowledge, but also skills and humane values which are at the core of education, even in an ICT age.

The development of the materials which is on-going also had input from experienced editors and illustrators who have ensured that they are accurate, current and learner-friendly. They are specially written with distance learners in mind. This is very important because, distance learning involves non-residential students who can often feel isolated from the community of learners.

It is important to note that, for a distance learner to excel there is the need to source and read relevant materials apart from this course material. Therefore, adequate supplementary reading materials as well as other information sources are suggested in the course materials.

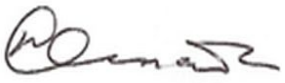
Apart from the responsibility for you to read this course material with others, you are also advised to seek assistance from your course facilitators especially academic advisors during your study even before the interactive session which is by design for revision. Your academic advisors will assist you using convenient technology including Google Hang Out, You Tube, Talk Fusion, etc. but you have to take advantage of these. It is also going to be of immense advantage if you complete assignments as at when due so as to have necessary feedbacks as a guide.

The implication of the above is that, a distance learner has a responsibility to develop requisite distance learning culture which includes diligent and disciplined self-study, seeking available administrative and academic support and acquisition of basic information technology skills. This is why you are encouraged to develop your computer skills by availing yourself the opportunity of training that the Centre's provide and put these into use.

In conclusion, it is envisaged that the course materials would also be useful for the regular students of tertiary institutions in Nigeria who are faced with a dearth of high quality textbooks. We are therefore, delighted to present these titles to both our distance learning students and the university's regular students. We are confident that the materials will be an invaluable resource to all.

We would like to thank all our authors, reviewers and production staff for the high quality of work.

Best wishes.



Professor Bayo Okunade

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Course Information

Course Code & Course Name: NSG 318: Introduction to Nursing Research

Credit points: 3 Units

Year: 300-Level;

Semester: First Semester

About the Course: The course deals with evolution of research in nursing and introduces the students to the basic principles of research.

Lecturer Information:

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Introduction to the Course:

You are welcome to NSG 318. This is an online course that runs in the distance learning mode. It is a compulsory course open to all nursing students and it is a 3-unit course that has 45 hours of interaction among teachers and learners for the period of the course.

Aim: The course aims at creating research interest and skills in the Students as a means for improving nursing care

Overview: The course is designed to stimulate the interest of Nurses in the need for research as a means of improving nursing care. It introduces Nursing Students to their role in research, the major steps in research process, and provides a window of opportunity for learners to explore proposal writing as well as research grants.

The course will arouse students' interest in research; increase their motivation to acquire knowledge of the research process in preparation for conducting original researches in the next level. This to develop the skills necessary for conducting research so that changes in nursing care can be based on results derived from research findings.

Course Objectives: at the end of this course, the students should be able to:

- Define research
- Describe nursing research
- Differentiate research from other methods of inquiry
- Describe major steps in research process
- Write a research proposal

- Utilize the knowledge of research in investigating a problem relevant to nursing profession and
- Conduct pilot study in relevant research area of interest in preparation for complete study in the next level

Table of Contents

Study Session 1: Introduction to Nursing Research

Introduction

Nurses have the responsibility to ensure that their clients are the recipients of care that reflects the most current and relevant available knowledge. Thus, research has become a highly values activity for nurses.

In today's world, nurses must become lifelong learners, capable of reflecting on, evaluating, and modifying their clinical practice based on new knowledge. Nurses are also increasingly expected to become producers of new knowledge through nursing research.

In this study session, you will be learning about research especially nursing research, goals, purpose and the state. The sources of nursing research and roles of nurses in research will also be discussed.

Learning Outcomes for Study session 1

When you have studied this session, you should be able to:

1.1 Define research
1.2 Define nursing research
1.3 List the goals of nursing research
1.4 List the purpose of nursing research
1.5 Discuss the past, present and future of nursing research
1.6 Discuss the sources of nursing research
1.7 State the role of nurses in nursing research

1.1 Research

Merriam-Webster's defines research as:

1. Careful or diligent search
2. Studious inquiry or examination; *especially* : investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws

3. The collecting of information about a particular subject

Research is a detailed study of a subject, especially in order to discover (new) information or reach a (new) understanding. (Cambridge Dictionaries Online, 2003)

Research is a system inquiry that uses disciplined methods to answer questions or solve problems with the ultimate goal of developing, refining, and expanding a body of knowledge (Polit and Beck 2004).

The root meaning of the word research is "search again" or "examine carefully". More specifically, research is diligent, systematic inquiry or investigation to validate and refine existing knowledge and generate new knowledge (Burns and Grove (2005). Systematic, diligent inquiry is necessary for researchers to address the following question:

- What needs to be known for the discipline of nursing?
- What research methods are needed to validate, refine, and generate nursing knowledge?
- What meaning can be extracted from health care-focused studies to build evidence-based knowledge for nursing practice?
- Does the evidence-based knowledge used in practice produce the desired outcomes for patients, providers, and the health care system?

In-Text Question

What is research?

In-text Answer

Research is a system inquiry that uses disciplined methods to answer questions or solve problems with the ultimate goal of developing, refining, and expanding a body of knowledge.

1.2 Definition of Nursing Research

Burns and Grove (2005) defined nursing research as being concerned with knowledge that directly and indirectly influences clinical nursing practice.

Polit and Beck (2004) defined nursing research as a systematic inquiry designed to develop knowledge about issues of importance to the nursing profession including nursing practice, education, administration, and informatics.

Gillis and Jackson (2002) defined nursing research as research into phenomena that are predominantly and appropriately the responsibility of nurses in their professional practice. Therefore research in nursing encompasses systematic investigations into provision of health care services, administration of nursing and health care services, and education of practitioners.

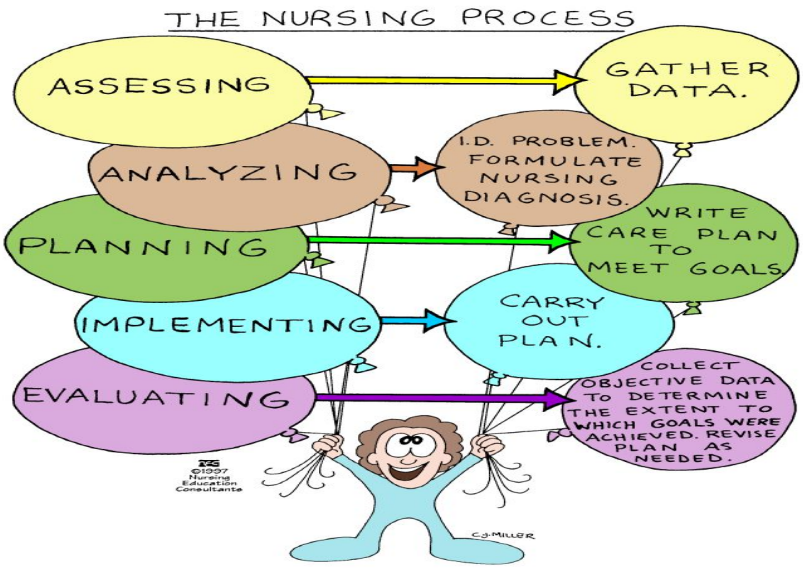

Figure 1.1: *Nursing Process*

Source: *DLC, University of Ibadan*

In-text Question

Define nursing research?

In-text Answer

Nursing research is being concerned with knowledge that directly and indirectly influences clinical nursing practice.

1.3 Goals and Significance of Nursing Research

The importance of nursing research cannot be stressed enough. Some of the goals for conducting research include:

Figure 1.2: *Goals of Nursing Research*

Source: *DLC, University of Ibadan*

Significance

The ultimate goal of nursing is to provide evidence-based care that promotes quality outcomes for patients, families, health care providers, and the health care system. Evidence-based practice involves the use of collective research findings in:

- Promoting an understanding of patients' and families' experiences with health and illness
- Implementing effective interventions to promote patient health
- Providing quality, cost-effective care within the health care system

Nursing research is essential for the development of scientific knowledge that enables nurses to provide evidence-based health care

In-text Question

List two importance of nursing research

In-text Answer

- Improvement in nursing care
- Credibility of nursing profession

1.4 The Purpose of Nursing Research

The general purpose of nursing research is to answer questions or solve problems of relevance to the nursing profession. **Basic research** is undertaken to extend the base of knowledge in a discipline, or to formulate or refine a theory. **Applied research** focuses on finding solutions to existing problems.

Basic research is appropriate for discovering general principles of human behaviour and bio physiologic processes; applied research is designed to indicate how these principles can be sued to solve problems in nursing practice.

In nursing, the findings from applied research may pose questions for basic research and the results of basic research often suggest clinical applications.

The specific purposes of nursing research include:

1. **Description**- Description involves identifying and understanding the nature of nursing phenomena and, sometimes the relationships among them. Through research, nurses are able to
   - ❖ Describe what exists in nursing practice,
   - ❖ Discover new information,
   - ❖ Promote understanding of situations
   - ❖ 4 Classify information for use in the discipline

Nurses have described a wide variety of phenomena. Examples include patients' stress and coping, pain management, adaptation processes, health beliefs, time patterns of temperature readings.

2. **Exploration**- Like descriptive research, exploratory research begins with a phenomenon of interest; but rather than simply observing and describing it, exploratory research investigates the full nature of the phenomenon, the manner in which it is manifested, and the other factors to which it is related.

For example, a descriptive quantitative study of patients' preoperative stress might seek to document the degree of stress patients experience before surgery and the percentage of patients who actually experience it. An exploratory study might as the following: what factors diminish or increase a patient's stress? Is a patient's stress related to behaviours of nursing staff? Is stress related to the patient's cultural backgrounds?

3. **Explanation-** clarifies the relationship among phenomena and identifies the reasons why certain events occur. Explanatory research is often linked to theories.

Whereas descriptive research provides new information, and exploratory research provides promising insights, explanatory research attempts to offer understanding of the underlying causes or full nature of a phenomenon.

4. **Prediction**- through prediction, one can estimate the probability of a specific outcome in a given situation. However, predicting an outcome does not necessarily enable one to modify or control the outcome. With predictive knowledge, nurses could anticipate the effects that nursing interventions would have on patients and families.

For example, research has shown that a woman aged 40years is at higher risk of bearing a child with Down syndrome than is a woman aged 25years.

5. **Control**- if one can predict the outcome of a situation, the next step is to control or manipulate the situation to produce the desired outcome. Dickoff, James, and Wiedenbach (1968) described control as the ability to write a prescription to produce the desired results.

In-text Question

One of these is not the main purpose of research

a. Description

b. Exploration

c. Explanation

d. Administration

In-text Answer

The answer is d

1.5 Nursing Research: Past, Present, and Future: Historical Perspective

YEAR	EVENT
1850	Florence Nightingale is the first researcher with studies conducted to improve soldiers' health
1859	Nightingale's *Notes on Nursing* publishes
1900	American *Nursing Journal* begins publication
1923	Columbia University establishes first doctoral program for nurses
	Goldmark report with recommendations for nursing education publishes

1929	First Master of nursing degree is offered in Yale University
1930s	*American Journal of Nursing* publishes clinical case studies
1932	The Association of Collegiate Schools of Nursing is organized
1948	Brown publishes report on inadequacies of nursing education
1950	American Nurses Association (ANA) publishes study of nursing functions and activities
1952	The journal *Nursing Research* begins publication
1953	Institute of Research and Service in Nursing Education established
1955	Inception of the American Nurses' Foundation to sponsor nursing research
1957	Establishment of nursing research center at Walter Reed Army Institute of Research
1963	*International Journal of Nursing Studies* begins publication
1965	American Nurses' Association (ANA) begins sponsoring nursing research conferences
1966	Nursing history archive established at Mugar Library, Boston University
1967	*Image* (Sigma Theta Tau publication) is first published Stetler/Marram Model for Application of Research Findings to Practice is first published
1968	*Canadian Journal of Nursing Research* begins publication
1971	ANA commission on Nursing Research is established
1972	ANA establishes its Council of Nurse Researchers
1973	First Nursing Diagnosis Conference is held
1976	Stetler and Marram publish guidelines on assessing research for use in practice
1978	The journals *Research in Nursing & Health and Advances in Nursing Science* begins publication
1979	*Western Journal of Nursing Research* begins publication
1982	The Conduct and Utilization of Research in Nursing (CURN) project publishes report
1983	*Annual Review of Nursing Research* begins publication
1985	ANA cabinet on Nursing Research establishes research priorities

1986	National Center for Nursing Research (NCNR) established within U.S. National Institute of Health
1987	The journal *Scholarly Inquiry for Nursing Practice* begins publication
1988	The journals *Applied Nursing Research* and *Nursing Science Quarterly* begins publication
	Conference on Research Priorities (CORP #1) is convened by NCNR
1989	U.S. Agency for Health Care Policy and Research (AHCPR) is established
1992	The journal *Clinical Nursing Research* begins publication
1993	NCNR is renamed the National Institute of Nursing Research (NINR)
	CORP #2 is convened to establish priorities for 1995 – 1999
	The Cochrane Collaboration is established
	The journal, *Journal of Nursing Measurement* begins publication
1994	The journal *Qualitative Health Research* begins publication
1997	Canadian Health Services Research Foundation is established with federal funding
1999	AHCPR is renamed Agency for Healthcare Research Foundation and Quality (AHRQ)
2000	NINR issues funding priorities for 2000 – 2004; annual funding exceeds $100 million
	The Canadian Institute of Health Research is launched
	The journal *Biological Research for Nursing* begins publication
2003	NINR identifies mission and funding themes for the future
	AHRQ identified mission and goals for the future
	(Burns and Grove 2005, and Polit and Beck, 2004)

Activity 1.1: Research

Allowed Time: **2hours**

Task:

A. From your entry to nursing, write the progression of your introduction to research and research activities till date as outlined above from with year and specific activity.

B. Go to Google and search your full names among researchers and print out the content with the exception of the following: LinkedIn, Facebook, Instagram and other social network media.

1.6 Sources of Nursing Knowledge

Nurses have relied on several sources of knowledge to guide nursing practice. These include:

1. **Tradition-**handling down of knowledge from one generation of nurses to another by written or verbal communication and role-modelling. "We've always done it that way". Tradition is efficient as an information source and provides a common foundation of accepted truth. However, tradition can narrow and limit the knowledge sought for nursing practice.
2. **Authority**-experts or authorities in a given field often provide knowledge for other people. However, the knowledge acquired from authorities frequently has not been validated, and although it may be useful, it must be verified through research.
3. **Clinical experience, Trial and error, and Intuition**- Clinical experience represents a familiar and functional source of knowledge. It involves gaining knowledge by being personally involved in an event, situation, or circumstances.
   Trial and error is an approach with unknown outcomes that is used in a situation of uncertainty, when other sources of knowledge are unavailable. The goal was "If it works, we'll use it".
   Intuition is a type of knowledge that cannot be explained on the basis of reasoning or prior instruction. It is difficult to develop policies and practices for nurses on the basis of intuition.
4. **Logical Reasoning-** as a method combines experience, intellectual faculties, and formal systems of thought. **Inductive reasoning** is the process of developing

generalizations from specific observations. **Deductive reasoning** is the process of developing specific predictions from general principles.

5. **Assembled information**- health care professionals rely on information that has been assembled for a variety of purposes in making clinical decisions.
6. **Disciplined Research**- research conducted within a disciplined format is the most sophisticated method of acquiring evidence that humans have developed.

In-text Question

What are the shortcoming of tradition and authority as sources of nursing knowledge?

In-text Answer

Tradition can narrow and limit the knowledge sought for nursing practice. The knowledge acquired from authorities frequently has not been validated; it must be verified through research

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Activity1.2: Sources of nursing knowledge

Allowed Time: **2 hours**

Ask five of your friends in clinical practice their sources of nursing knowledge that drive the nursing care rendered to their patients. Ask them how many journal articles they have read in the last one to three months, ask for name and sources. Write down your own and be sincere about it. Remember research is about integrity and much more as professional nurses.

1.7 Roles of Nurses in Research

Overall, there are many roles that nurses can assume in association with research projects. Some of these include:

1. Principal investigator
2. Member of a research team
3. Evaluator of research findings
4. User of research findings
5. Client advocate during studies
6. Subjects/participants in studies

Activity 1.3:

Many nurses actually carry out research daily in their practice without realizing it. Take a colleague as a partner with one person for and the other against the statement above and engage each other in a 10 minutes debate.

Summary of Study Session 1

In this study session, you have been able to:

1. Nursing research is systematic inquiry to develop knowledge about issues of importance to nurses. Nursing research is essential for the development of scientific knowledge that enables nurses to provide evidence-based health care to patients and their families.
2. Knowledge generated through research is essential for identification, description, exploration, explanation, prediction and control of nursing phenomena.
3. The major reason for conducting nursing research is to foster optimum care for clients. The nursing profession exists to provide a service to society, and this service should be based on accurate knowledge. Scientific research has been determined to be the most reliable means of obtaining knowledge. As was previously mentioned, there are other means of acquiring knowledge, such as through tradition, authority, and trial and error. The scientific method, however, has been determined to be the most objective, systematic way of obtaining knowledge.
4. Clinical nursing research parallels the nursing process. Research should be conducted in the area of assessment, planning, nursing diagnosis, nursing interventions, and evaluation of nursing care. Research findings enable the nurse to describe, explain, predict, and control phenomena related to the health of clients. Study findings must then be disseminated to members of the profession.

Self-Assessment Questions (SAQs)

Now that you have completed this study, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next! Support meeting.

SAQ 1.1

Define research

SAQ 1.2

Give the definition of nursing research according to Polit and Beck

SAQ 1.3

List the purposes of nursing research

SAQ 1.4

List the milestones in nursing research in the 1990s to 2000s

SAQ 1.5

Discuss the different sources of nursing knowledge

SAQ 1.6 (Test Learning Outcome 1.6)

List three roles that nurses can assume in research participation

Notes on SAQS

SAQ 1: The root meaning of the word research is "search again" or "examine carefully". More specifically, research is diligent, systematic inquiry or investigation to validate and refine existing knowledge and generate new knowledge.

SAQ 2- Polit and Beck (2004) defined nursing research as a systematic inquiry designed to develop knowledge about issues of importance to the nursing profession including nursing practice, education, administration, and informatics.

SAQ 2- The specific purposes of nursing research include:

- Description
- Exploration
- Explanation
- Prediction
- Control

SAQ 3

YEAR	EVENT
1992	The journal *Clinical Nursing Research* begins publication
1993	NCNR is renamed the National Institute of Nursing Research (NINR)
	CORP #2 is convened to establish priorities for 1995 – 1999
	The Cochrane Collaboration is established
	The journal *Journal of Nursing Measurement* begins publication
1994	The journal *Qualitative Health Research* begins publication
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	The Canadian Institute of Health Research is launched
	The journal *Biological Research for Nursing* begins publication
2003	NINR identifies mission and funding themes for the future
	AHRQ identified mission and goals for the future

SAQ 4: Sources of nursing knowledge

1. Tradition-handling down of knowledge from one generation of nurses to another by written or verbal communication and role-modelling. "We've always done it that way". Tradition is efficient as an information source and provides a common foundation of accepted truth. However, tradition can narrow and limit the knowledge sought for nursing practice.
2. Authority-experts or authorities in a given field often provide knowledge for other people. However, the knowledge acquired from authorities frequently has not been validated, and although it may be useful, it must be verified through research.
3. Clinical experience, Trial and error, and Intuition- Clinical experience represents a familiar and functional source of knowledge. It involves gaining knowledge by being personally involved in an event, situation, or circumstances.

Trial and error is an approach with unknown outcomes that is used in a situation of uncertainty, when other sources of knowledge are unavailable. The goal was "If it works, we'll use it".

Intuition is a type of knowledge that cannot be explained on the basis of reasoning or prior instruction. It is difficult to develop policies and practices for nurses on the basis of intuition.

4. Logical reasoning- as a method combines experience, intellectual faculties, and formal systems of thought. **Inductive reasoning** is the process of developing generalizations from specific observations. **Deductive reasoning** is the process of developing specific predictions from general principles.
5. Assembled information- health care professionals rely on information that has been assembled for a variety of purposes in making clinical decisions.
6. Disciplined research- research conducted within a disciplined format is the most sophisticated method of acquiring evidence that humans have developed.

SAQ 6

- Principal investigator
- Member of a research team
- Evaluator of research findings
- User of research findings
- Client advocate during studies
- Subjects/participants in studies

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Study Session 2: An Overview of Research Process

Introduction

In the previous study session, you learnt about nursing research. Nurses have the responsibility to ensure that their clients are the recipients of care that reflects the most current and relevant knowledge available. Thus, research has become a highly values activity for nurses.

In today's world, nurses must become lifelong learners, capable of reflecting on, evaluating, and modifying their clinical practice based on new knowledge. Nurses are also increasingly expected to become producers of new knowledge through nursing research. In this study session you will learn about the steps of the research process.

Learning Outcomes for Study Session 2:

When you have studied this study session, you should be able to:

2.1 Define the term "research".

2.2 Discuss the phases of research process.

2.3 Explain the steps in research process.

2.1 Research Process

Research is a process similar in some ways to other processes. A process consists of a purpose, a series of actions, and a goal. Therefore, the background acquired early in problem solving and nursing process is also useful in research.

The research process involves conceptualizing a research project, planning and implementing that project, and communicating the findings. Each step progressively builds on the previous steps, however it is flexible.

Characteristic features of research are:

- Systematic solving of scientific problems
- Using scientific methods
- System of interconnecting phases and steps

Types of research

1. **Quantitative research:** This is a formal, objective, systematic process in which numerical data are used to obtain information about the world. It seeks to quantify, or reflect with numbers, observations about human behaviour. This type of reserach method is used to decsribe variables, examine relationships among variables, and determine cause-and-effect interactions between variables.
   It is currently the predominantly used method of scientific investigation in nursing. The types of quantitative research are: Descriptive research, correlational research, quasi-experimental research and experimental research
2. **Qualitative research-** is a systematic, interactive, subjective approach used to describe life experiences and give them meaning. It emphasizes verbal descriptions and explanations of human behaviour. Rather than concerning itself primarily with representativeness samples, qualitative research emphasizes careful and detailed descriptions of life experiences such as pain, caring, and comfort.
   This method is very useful for investigating emotional responses. The types of qualitative research are: phenomological research, grounded theory research, ethnographic reserach, historical research, philosophical inquiry, critical social theory methodology.

Comparative Characteristics of Quantitative and Qualitative Researches

FEATURE	QUANTITATIVE	QUALITATIVE
Purpose	To explain and predict To confirm and validate · To test theory	To describe and explain To explore and interpret · To build theory
Process	Focused Known variables Established guidelines Static design Context-free · Detached view	Holistic Unknown variables Flexible guidelines Emergent design Context-bound · Personal view
Data Collection	Representative Large sample	Informative, small sample · Observations, interviews

	· Standardized instruments	
Data Analysis	· Deductive analysis	· Inductive analysis
Report of findings	Numbers Statistics, aggregated data Formal voice, scientific style.	Words Narratives Individual quotes Personal voice Library style.

In- text-question
What is research process?

In- text-answer
This involves conceptualizing a research project, planning and implementing that project, and communicating the findings.

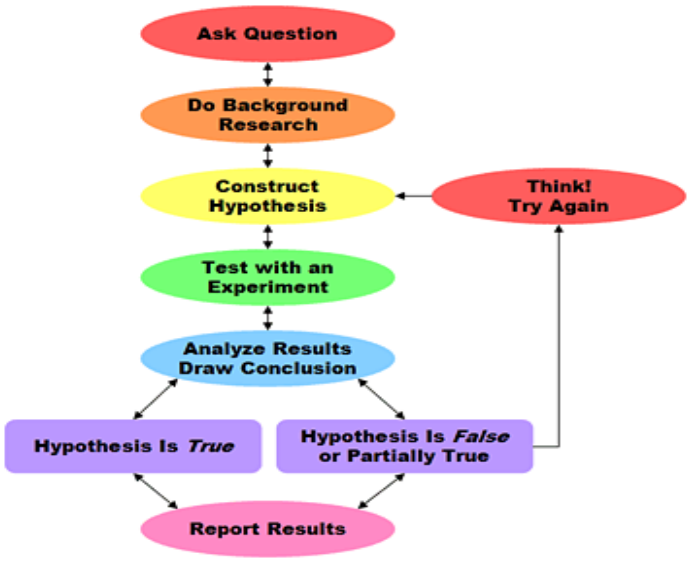
2.2 Phases of Research Process

There are five phases of reseach process, and these are as follows:

- Phase of concepcion
- Phase of elaboration of research plan
- Empiric phase
- Analytic phase
- Disseminative phase

1. Phase of conception

The first phase of research process: This is the phase in which content and structure of research are created. Conceptualisation refers to the process of developing refining abstract ideas. The activities include thinking, rethinking, theorising, making decision, and reviewing ideas.



It is composed of four steps:

a. Formulation and set bounds of research problem, determine the purpose of study
b. Searching and review the literature related to the research problem
c. Development of theoretical construction of the future research
d. Creation of hypothesis

How the research problem is formulated

a. Formulation and set bounds of research problem, determine the purpose of study

i. accidental observation of phenomenon which we are not able to explain → curiosity

ii. formulation of questions (why and how the phenomenon originated)

a. a lot of uncertainties
b. small amount of certainties

iii. considerations on possible cause (es) of the phenomenon:

- discussion with co-workers
- study of literature
- personal experience of researcher

iv. formulation of first draft of research problem

v. considerations whether the research problem is solvable:

- if yes – then what kind of methods should be used
- if no – it is necessary to go back and start to think of another way

b. Looking for information related to research problem in literature

The aim of this step is to find the ‘‘older“ and current informations related to the research problem

We would like to find the answers to following questions:

- did anybody formulate the same research problem as mine in the past?
- did anybody solve the same or similar problem ?
- is the solving of the defined research problem fruitful or not?

c. Development of the theoretical construction for solving the research problem

Main aims: Thinking on the content of future research.

- on its timing and structure
- on the necessary conditions

Good virtual model of future research will save time, money and decreases probability of stress and mistakes during research.

Necessary conditions:

- the research problem is clearly defined
- the technical and personal conditions are available
- the social, legal and ethical views are known
- the main aims are defined

Result of this step: - clear framewerk for solving the research problem

d. Formulation of hypothesis

A well-thought-out and focused research question leads directly into hypothesis.

- Creation of rational assumption on the possible cause(es) of the observed phenomenon
- Creation of the questions focused on the essence of the research problem.

Characteristics of good hypothesis:

a. gives insight into research questions
b. is testable and measured by the proposed research
c. springs logically from the experience of the staff

The goal of science is to find an explanation for why the facts are as they are. Such an explanation is a hypothesis. A good hypothesis meets several standards. It should provide an adequate explanation of the observed facts. If two or more hypotheses meet this standard, the simpler one is preferred.

It should be able to predict new facts. One of the most exciting events in science is to predict the results of an experiment not yet performed if the hypothesis is valid and then to perform the experiment. The hypothesis that the experimental treatment had no effect is called the null hypothesis.

In- text-question

why is the conception phase the first step in a research process

In- text-answer

It is the phase in which content and structure of research are created. Other steps in the research process build on it.

2. Phase of elaboration of proposal and research plan

It is a general plan of research:

1. selection of patients, animals, other objects used for solving the problem: - creation of representative sample, inclusion, exclusion criteria
2. selection of the methods –qualitative, quantitative
3. creation of pilot study
4. selection of methods
5. selection of research technology
6. development a protocol of research
7. to define the schedule of research
8. to define the control methods: to control if the research procedures are correct or not
9. to define the statistcal methods used for evaluation of the obtained results
10. to define the financial, material and personal needs to secure success in the research

In- text-question

why the need for elaboration of proposal and research plan?

In- text-answer

a. To define the schedule of research.
b. To define the control methods: to control if the research procedures are correct or not.
c. To define the statistcal methods used for evaluation of the obtained results
d. To define the financial, material and personal needs to secure success in the research.

3. Empiric phase

The aim of this phase is production of results, collection of data, and their preparation for next analysis. The results are produced by:

a. experiment on animals
b. by clinical study
c. by using questionnaire, interview, observation
d. by using models - biological, electronic, mathematic....

Reproducibility of scientific work

The single feature that is most characteristic of science is its reproducibility. If scientists cannot duplicate their first results, they are forced to conclude that these were invalid. This problem occurs often. Its cause is usually some unrecognized, and hence uncontrolled, factor in the experiment (e.g., unrecognized variation in the properties of different batches of the materials used in the experiment).

With luck, the inability to reproduce experiments will be discovered by the same scientists who did the first experiments. This is why scientists generally repeat their experiments several times before reporting them in a scientific paper.

4. Analytic phase

The content of this phase is:

- Quantitative analysis of the data
- Qualitative analysis of the data
- Statistical analysis of the data
- Interpretation of the results

Methods used in analytic phase:

- **Correlation**: looking for relationships among the two or more values
- **Comparation**: comparation of the result obtained in our research with similar research done by other researchers

ACTIVITY:

Look for any five journals, decsribe the type of analysis in the five selected journals**.**

5. Disseminative phase

It is the phase when results of the research are published as:

- research report
- lectures and posters at congresses and conferences
- papers in journals

Note- most nursing researches especially among students end up on the bench without reaching this important phase.

In- text-question

During which phase of the research process is data collected?

In- text-answer

The empiric phase

ACTIVITY:

Prepare an action plan of how you will disseminate the findings of your own research in the next session.

2.3 Steps in the Research Process

There are steps to undertake in a research process, and these are:

1. Identify the Problem

The first step and one of the most important steps, in the research process is to clearly identify the problem that will be studied. Generally, a broad topic area is selected, and then the topic is narrowed down to a specific one-sentence statement of the problem.

This step of the research may be the most difficult of all and may take great ideal time. Martin (l994) contended that a "good" problem statement helps the researcher to move through the steps of the process.

2. Determine the Purpose of the Study

Justification/Significance- Although the term purpose is often used interchangeably with problem, a distinction can be made between these two terms.

- The statement addresses *what* will be studied.
- The purpose furnishes *why* the study is being done.

There must be a sound rationale or justification for every research project. Some studies are viewed as inconsequential and wasteful of time and money. The researcher must make explicit the expectation for the use of the study result. If the purpose of a study is clearly presented and justified, the researcher will be much more likely to receive approval for the study and also will be more likely to recruit participants for the study.

3. Review the literature- purposes of the literature review

- To determine what is already known
- The idea for a study may be formed while the researcher is in the library
- If previous research is found, the researcher must decide whether to replicate a study or examine another aspect of the problem.
- The review of the literature is necessary to narrow the problem to be studied.
- It also helps to plan the study methodology.

Research should build on previous knowledge. Before beginning a study, it is important to determine what knowledge exists of the study. There are few topics about which there is no existing knowledge based.

There are many routes of access to the published literature. Literature sources can be located through the library card catalogue, indexes, abstracts, and computer assisted searches.

Use of the library

a. The wealth of information libraries contain can be overwhelming
b. Beware of "serendipity"- the unexpected or unplanned finding of information on one topic during the process of searching for information on another topic.
c. Keep in mind your original focus
d. Prepare to spend a long time in the library
e. If you are not familiar with a particular library, consult the staff and tour the library

In- text-question

What is the first step and one of the most important steps in the research process?

In- text-answer

To clearly identify the problem that will be studied.

4. Develop a theoretical/conceptual framework

The goal of research is to develop scientific knowledge. Research and theory are intertwined. Research can test theories as well as help to develop and refine theories. Thus, theoretical frameworks are a valuable part of scientific research. The theoretical or conceptual frameworks will assist in the selection of the study variables and in defining them. The frame work also will direct the hypothesis and the interpretation of the findings

5. Identify the Study Assumption:

Assumptions are beliefs that are held to be true but have not necessarily been proven. Each scientific investment is based on assumption. These assumptions should be stated explicitly. Frequently, however, the assumptions are implicit.

This mean that the study was based on certain assumption but the researcher did not openly acknowledge or list these assumptions. Study assumptions influence the question that are asked, the data that are gathered, the methods used to gather the data, and the interpretation of the data.

6. Acknowledge the Limitations of Study

The researcher should try to identify study limitations or weaknesses. Limitations are uncontrolled variables that may affect study results and limit the generalizability of the findings. In nearly every nursing study, there are variables over which the researcher either has no control or chooses not to exercise control. These variables are called extraneous variables. For example, the educational level of subjects would be a study limitation if the researcher could not control this variable and thought that it might influence the study results. In experimental studies, uncontrolled variables are referred to as threats to internal and external validity.

7. Formulate the Hypothesis or Research question

A researcher's expectation about the study is expressed in a hypothesis. A hypothesis predicts the relationship between two or more variables. Whereas the problem statement asks a question, the hypothesis contains the population and variables, just as the problem statement does. In addition, the hypothesis proposes the relationship between the independent and the dependent variables.

In experimental studies, the independent variable is the "cause" or the variable that is thought to influence the dependent variable. The dependent variable is the "effect" or the variable that is influence by the researcher's manipulation (control) of the independent variable. A hypothesis must be tested or verified empirically, which means that it must be capable of being tested in the "real world" by observations gathered through the senses.

8. Define Study Variable/Terms

The variables and terms contained in the study hypotheses or research questions need to be defined so that their meaning is clear to the researcher and to the reader of a research report. The definitions are usually dictionary or theoretical definitions, a variable should be operationally defined.

An operational definition indicates how a variable will be observed or measured. Operational definitions frequently include the instrument that will be used to measure the variables. If anxiety were being measured, the theoretical definition would then be indicated by the identification of the of the tool or behaviour that would be used to measure anxiety.

9. Select the Research Design

The research design is the plan for how the study will be collected and the means used to obtain these data. For example, the researcher must decide if the study will examine cause-and-effect relationship or will only describe existing situations. The research chooses the design that is most appropriate to test the hypothesis (es) or answer the research question(s).

10. Identify the Population

The population is a complete set of individuals or object that possess some common characteristic of interest to the researcher. The research must specify the broad population or group of interest as well as the actual population that is available for the study. The first type of population is identified as the target population, and the second type is called the accessible population.

The target population also called the universe is made up of a study. The accessible population is that group that is actually available for study by the researcher. The term "population" does not always mean that available for studied. A nurse researcher might study a population of charts or a population of blood pressure reading, for example.

11. Select the sample

Although researchers are always interested in population, usually a subgroup of the population, called a sample, is studied. The sample is chosen to represent the population and is used to make generalization about the population. Obtaining data from an entire population is time consuming, and it may even be impossible, at times, to contact or locate every member of a population.

If the sample is carefully selected, the researcher can make claim about the population with a certain degree of confidence. The method of selecting the sample will determine how representative the sample is of the population.

Elements of informed consent

The principal means for ensuring that the rights of research subjects are protected is through informed consent. INFORMED CONSENT concerns the subject' participation in research in which they have of study before the study begins. The major elements of informed consent are:

1. Researchers are identified and credentials presented.
2. Subject selection process is described
3. Purpose of study is described
4. Study procedures are discussed
5. Potential risk are described
6. Potential benefits are described
7. Compensation, if any, are discussed
8. Alternative procedures, if any are disclosed.
9. Anonymity or confidentiality is assured.
10. Right to refuse to participate or to withdraw from study without penalty is assured.
11. Offer to answer all question is made.
12. Means of obtaining study results is presented

12. Conduct a pilot study

It is advisable to conduct a study before the study participants are approached and the actual study is carried out. A pilot study involves a miniature, trial version of the planned study. People are selected for the pilot study that is similar to the sample that will be used for the actual study.

There are several reasons for conducting a pilot study:

- The researcher can determine the feasibility of the study.
- Test the instrument that will be used.
- Gain experience with the methodology and instrument.
- Identify problems in data collection.

A pilot study can be used to test new instrument or to evaluate an existing instrument that has been altered. The researcher may think that the questionnaire is so simple that a 10-year- old could fill it out but find out in a pilot study that 30 years old have great difficulty in understanding several of the questions.

13. Collect the Data

Data are the pieces of information or fact that are collected in scientific investigation. Although the data collection step of the research process may be very time consuming, it is something considered to be the most exciting part of research.

14. Organise the Data for Analysis

After the data are collected, it is necessary to organise the data for tabulation and evaluation. This task can be overwhelming at times. Actually, this step of the research process should have been planned long before the data were collected. The researcher should have prepared dummy tables and graphs that could then be filled in with the data once they are obtained.

Analyse the Data: This stage of research process analyzing the data may make some of you cringe, for you can quickly ascertain that the statistics may be involve. In this day of computer, data analysis has been greatly simplified.

15. Interpret the Findings

After the data analysis the findings should be interpreted in light of the study hypothesis or research questions. If a hypothesis was tested, a determination is made as to whether the data support the research hypothesis or not. Also, the framework for the study is discussed in light of findings.

If the data support the research hypothesis then the theoretical or conceptual framework is also supported. Conversely if the research question hypothesis is not supported, the framework of the study is also not supported. The researcher should discuss why any problem incurred in the course of the study or any limitations of the design study that may have influenced the study.

16. Communicate the Findings

Final step in the research process and the most important one for nursing is the communication of the study findings. No matter how significant the findings may be they are of little value to the nursing profession if the researcher fails to disseminate these results to other colleagues. Reporting research results contributes to the base of evidence for nursing practice, and is a professional responsibility.

Research results can be presented in various venues and of types of publication to audiences of nurses, health care professionals, policymakers, and health care consumers. These include Student-related outlet (term papers, theses, and dissertation) and professional ones (journal articles, books, reports to funders, conference presentations).

Researchers who want to communicate their findings to other researchers or clinicians can opt to present findings orally or in writing. By presenting and publishing their findings, researchers are able to advance the knowledge of a discipline and receive personal recognition, professional advancement, and other psychological and financial compensation.

Communicating research findings also promotes the critique and replication of studies, identification of additional research problems, and the use of findings n practice.

Activity

Following the research process, write and submit the proposal for an original research in your area of specialization. Discuss approval of topic with facilitator online.

2.3.1. Sources of Nursing Research Problems

The sources of generating appropriate nursing research problems are numerous. Some of which include:

a. Personal experiences
b. Clinical sources
c. Literature sources
d. Existing theories
e. Previous research

Summary

In this study session you have learnt that:

1. The research process involves conceptualizing a research project, planning and implementing that project, and communicating the findings.
2. Quantitative research: This is a formal, objective, systematic process in which numerical data are used to obtain information about the world.
3. Qualitative research**:** This is a systematic, interactive, subjective approach used to describe life experiences and give them meaning.
4. The five phases of reseach process are as follows:
   Phase of concepcion, Phase of elaboration of research plan, Empiric phase, Analytic phase, and Disseminative phase.

Self-Assessment Question

Now that you have completed study session, you will need to assess yourself to see if you have achieved the learning objectives. Try to answer the questions below. Compare your answers to the correct answers at the end of the study session.

SAQ 1 (testing learning outcome 2.1)

Compare the characteristics of quantitative and qualitative researches

SAQ 2 (testing learning outcome 2.2)

List the five phases of research process.

SAQ 3 (testing learning outcome 2.3)

Discuss the steps in a research process

Note to SAQS

SAQ 1: Comparative Characteristics of Quantitative and Qualitative Researches

FEATURE	QUANTITATIVE	QUALITATIVE
Purpose	· To explain and predict · To confirm and validate · To test theory	· To describe and explain · To explore and interpret · To build theory
Process	· Focused · Known variables · Established guidelines	· Holistic · Unknown variables · Flexible guidelines

	· Static design · Context-free · Detached view	· Emergent design · Context-bound · Personal view
Data Collection	· Representative · Large sample · Standardized instruments	· Informative, small sample · Observations, interviews
Data Analysis	· Deductive analysis	· Inductive analysis
Report of findings	· Numbers · Statistics, aggregated data · Formal voice, scientific style.	· Words · Narratives · Individual quotes · Personal voice · Library style.

SAQ 2: Phases of research process

a. Phase of conception
b. Phase of elaboration of proposal and research plan
c. Empiric phase
d. Analytic phase
e. Disseminative phase

SAQ 3: Steps in research process

a. Identify the problem
b. Determine the purpose of the study
c. Review the literature
d. Develop a theoretical/conceptual framework
e. Identify the study assumption
f. Acknowledge the limitations of study
g. Formulate the hypothesis or research question
h. Define study variable/terms
i. Select the research design
j. Identify the population
k. Select the sample
l. Conduct a pilot study
m. Collect the data
n. Organise the data for analysis
o. Interpret the findings
p. Communicate the findings

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Study Session 3: Theory and Nursing Research 1

Introduction

You ever wonder how people come up with reasons why things are the way they are? Perhaps your parents have told you several times when you were young not to play in the rain because if you do, you will catch cold. Then you go ahead to do this and you get cold. As you grow up to read sciences you then discover the real cause of the cold s not just the rain but the effect it has on your body.

In this study session, you will learn various theory terminologies, types of theories, theory degeneration and development, sources of theory for nurses.

Learning Outcomes for Study session 3

At the end of this study, you should be able to

3.1 Define the various theory terminologies

3.2 Discuss different types of theories

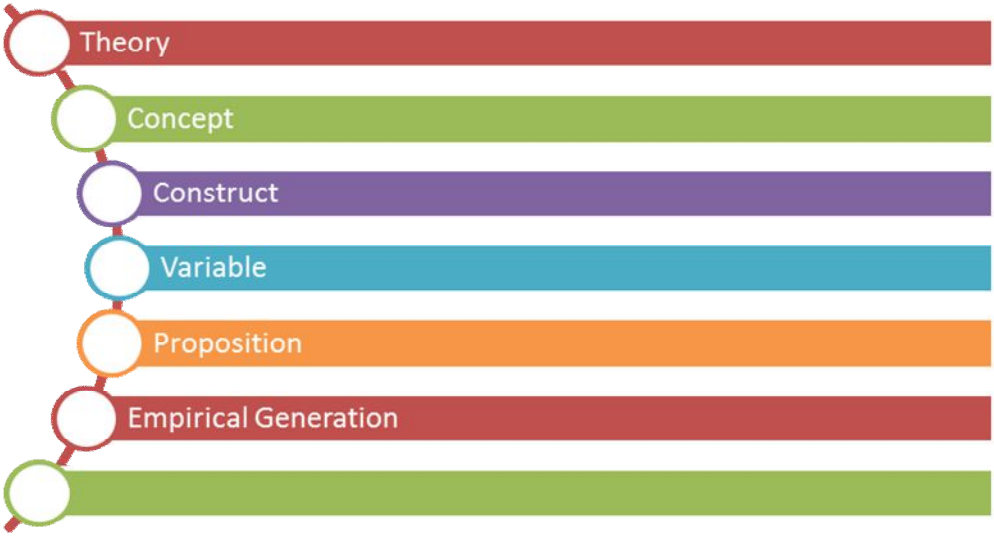
3.3 Discuss the process of theory generation and development

3.4 Describe the different sources of theories for nursing research

3.1 Theory Terminologies

Theories are used by everyone to explain happenings in their lives and in their environments. Theories are also used by nurses to explain happenings of significance to nursing. Nursing research and nursing practice should be theory based. When research is guided by a theoretical framework, the theory guides the research process from the beginning to the end- that is, from identifying a research problem through to the conclusion of the study.

The following theory terminologies will be discussed



3.1.1 Theory

One of the most commonly quoted definitions of a theory was formulated by **Kerlinger (1973):** ''A theory is a set of interrelated constructs (concepts), definitions, and propositions that present a systematic view or phenomena by specifying relations among variables, with the purpose of explaining and predicting the phenomena''.

Theories explain why one event is associated with another event or what causes an event to occur. Theories are composed of concepts and the relationships between these concepts. Relationships between these concepts are presented in theoretical statements, which are frequently called **propositional statements**. These propositions are connected in a logical system of thought.

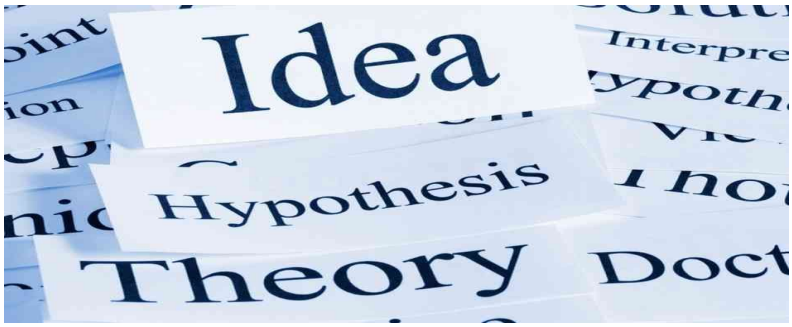


Figure 3.1: Theory

Source:

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Theory comes from the Greek word ‘’theoria’’, which means beholding, spectacle, or speculation. ‘’Speculation’’ is an appropriate word to use when discussing theories. Theories are always speculative in nature and are never considered to be true or proven. They provide description and explanation of the occurrence of phenomena are always subject to further development or revision or may even be discarded if not supported by empirical evidence.

In-text Question

One of the most commonly quoted definitions of a theory was formulated by----------

In-text Answer

Kerlinger (1973)

3.1.2 Concept

Concepts are the building blocks of theory. A concept is a word picture or mental idea of a phenomenon. Concepts are words or terms that symbolize some aspects of reality.

Figure 3.2: *A boy thinking of football*

Source:

https://www.google.com.ng/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&u

The meaning of a concept is conveyed by the use of a definition and examples of instances of the concept. Concepts may be very concrete, such as the human brain, or may be very abstract, such as intelligence. Concrete concepts may be specified and defined more easily than abstract concepts. E.g. the concept of a sport could symbolized with a person playing football as seen in **Figure 3.2.**

In-text Question

---------- are the building blocks of theory

In-text Answer

Concepts

3.1.3 Construct

A highly abstract, complex phenomenon (concept) is denoted by a 'made up' or constructed term. Construct is the term used to indicate a phenomenon that cannot be directly observed but must be inferred by certain concrete or less abstract indicators of the phenomenon. Examples of constructs are wellness, mental health, self-esteem, and assertiveness. Each of these constructs can be identified only through the presence of certain measurable concepts.

Wellness might be defined through laboratory data or clinical observation. The laboratory data would be a very objective indicator of wellness, whereas the clinical observation would be a less objective indicator of wellness.

In-text Question

Relationships between these concepts are presented in theoretical statements, which are frequently called ----------

In-text Answer

Propositional statements

3.1.4 Variables

These are concepts that are observable, measurable, and have a dimension that can vary. For example, temperature is a variable that is observable, measurable and vary from high to low. Variables can be **Dependent** i.e. a variable that is influenced by other variables. It

is the effect in a cause-and-effect relationship; **Independent** i.e. a variable that has been selected as a possible influence on variations in a dependent variable.

Figure 3.3: *Simplified explanation of types of variable*

Source:

http://www.google.com.ng/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&

The cause in a cause-and-effect relationship; **Control** i.e. a variable that is taken into account in exploring the relationship between an independent variable and a dependent variable.

In-text Question

----------is the term used to indicate a phenomenon that cannot be directly observed but must be inferred by certain concrete or less abstract indicators of the phenomenon.

In-text Answer

Construct

3.1.5 Proposition

A proposition is a statement or assertion of the relationship between concepts. Propositions are also referred to as axioms or theorem. Propositions link concepts of a

theory together so something can be described. Propositional statements are derived from theories or from generalizations based on empirical data.

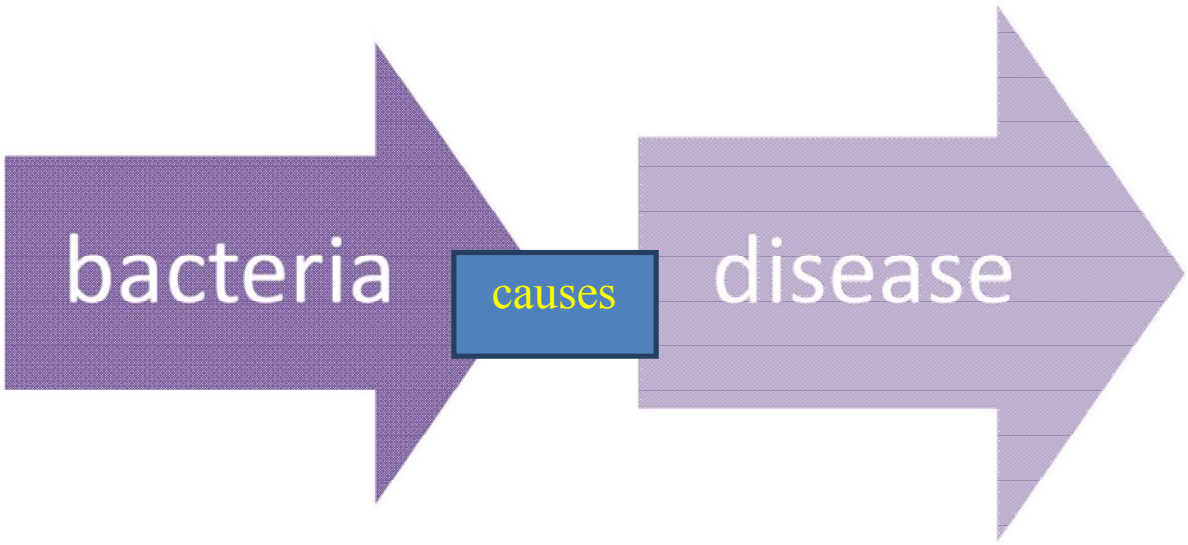
In-text Question

A variable that is influenced by other variables is called ----------

In-text Answer

Dependent

For example, there is a relationship between pulse rates and respiration rates. Propositional statements may also assert that one variable causes another variable; for example, bacteria cause diseases.



3.1.6 Empirical Generalization

When a similar pattern of events is found in the empirical data of a number of different studies, the pattern is called an empirical generalization (Reynolds, 1971). Empirical generalizations summarize the results of several empirical studies.

Jacox (1974) proposed an example of a nurse who observes 40 or 50 preoperative patients and finds that each is anxious. Many studies have shown that women attend church more often than men. The empirical generalization can therefore be made that women are more frequent church attenders than men.

In-text Question

A ---------- is a statement or assertion of the relationship between concepts.

In-text Answer

Proposition

3.1.7 Hypothesis

A hypothesis predicts the relationship between two or more variables. Hypotheses present the researcher's expectation about the outcome of a study. They form a bridge between the abstract world of theory and the concrete reality of nursing's practice world.

They may be directional (specifying a direction for the relationship) or non-directional (simply stating that there will be difference between groups or variables). Through hypotheses, theoretical propositions can then advance scientific knowledge by supporting or failing to support the tested theory.

3.1.8 Model

The more complex the issues, the greater is the need to ''create order out of chaos'' by constructing models (Blackwell, 1985). A model is a symbolic representation of some phenomenon or phenomena. Bush (1979) wrote that a model ''represents some aspect of reality, concrete or abstract, by means of a likeness which may be structural, pictorial, diagrammatic or mathematical''.

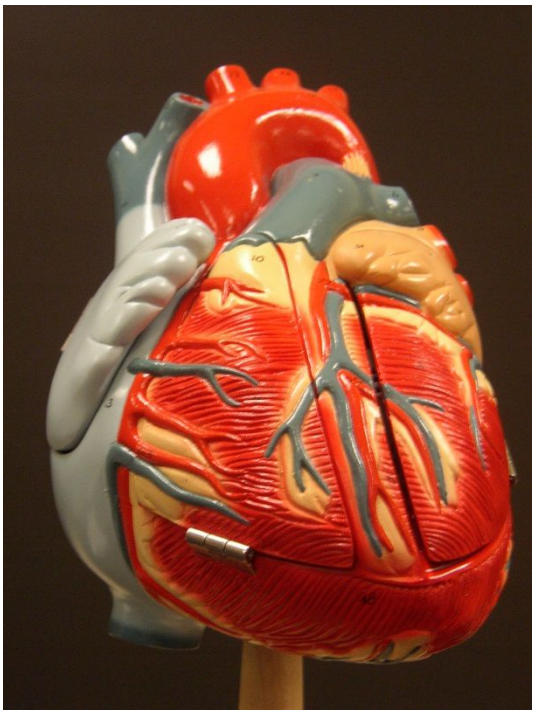


Figure 3.4: *A model of the human heart*

Source:

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Probably the most common usage of the term model is when discussing structural types of models, such as model trains, model airplanes, and models of the human heart as seen in **figure 3.4.** The types of models that nurses are interested in when conducting nursing research are generally of the structural or diagrammatic form. A diagram or a picture can portray a theory in a fashion that clearly demonstrates the structure and parts of the theory.

Whereas a theory has focuses on statements or explanations of the relationship between phenomena, a model focuses on the structure or composition of the phenomena.

In-text Question

----------wrote that a model ‘’represents some aspect of reality, concrete or abstract, by means of a likeness which may be structural, pictorial, diagrammatic or mathematical’’.

A. Bush (1979)

B. Blackwell (1985)
C. Reynolds (1971).
D. Jacox (1974)

In-text Answer

A. Bush (1979)

3.2 Types of Theories

Theories can be described according to the range of phenomena they describe and explain. There are two main types of theories

- Grand theories
- Middle-range theories

3.2.1 Grand Theories

Grand theories are concerned with a broad range of phenomena in the environment or in the experiences of humans. Grand theories are important in every discipline. According to Fitzpatrick and Whall (1996), a grand theory ‘’serves as a guiding light, as a historical holder of disciplinary beliefs, and as a provider of visions of the future’’.

Although grand theories are revered by many nurses, middle- range theories have been found to be more valuable to nursing research than have grand theories. The works of many of the nurse theorists have been identified as conceptual models at the grand theory level. Some nurses have contended that these models do not drive research (Tripp-Reimer, Woodworth, McCloskey, & Bulechek, 1996).

3.2.2 Middle- range Theories

Middle-range theories have a much narrow focus; they are concerned with only a small area of the environment or of human experiences and incorporate a small number of concepts.

One of the shortcomings of the use of middle- range theories appears to be that most of them are from other disciplines. Examples of these theories include social support, coping, anxiety, adult learning, body image, stress and helplessness. Although knowledge

does not belong to any one discipline, each discipline looks at phenomena from a different perspective. Few disciplines are concerned with people who are ill.

For example, learning theories that may be useful with well people may not be appropriate for sick people who not only are ill, but are under a great deal of stress. An individual whose normal preferred learning mode is auditory may need a totally different approach when hospitalized. This person may now need visual as well as auditory learning signals, and the signals may need to be repeated several times.

Therefore, we cannot assume that a theory used in one discipline should be transferred directly over for use in another discipline. Modifications may be needed or the theory may be deemed inappropriate for use in nursing.

In-text Question

----------are concerned with a broad range of phenomena in the environment or in the experiences of humans.

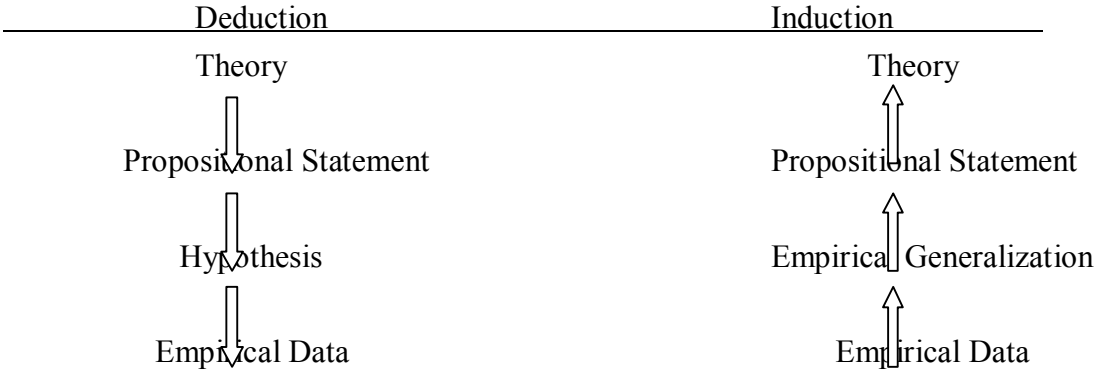
In-text Answer

Grand theories

3.3 Theory Generation and Development

Researchers are concerned with both **theory generation** and the **development of theories**. The two activities go hand in hand. The processes of theory generation and development of theories through testing are shown below.

As can be seen, theory generation and development involve both **inductive** and **deductive** reasoning processes.



Deductive and inductive processes in theory generation and development

3.3.1 Deductive Reasoning

Deductive reasoning proceeds from the general (theory) to the specific (empirical data). The deductive process moves from a general abstract explanation to a specific event in the real world. A hypothesis is deduced from a theory, and the hypothesis is empirically tested in a real- life situation.

3.3.2 Inductive reasoning

Inductive reasoning, on the other hand, proceeds from the specific (empirical data) to the general (theory).When an inductive process is used, data are gathered from a real- life situation and the researcher tries to derive a general explanation of this behavior or event. The question is asked, how can I explain what I have been observing?

For example, you might observe that patients, who have been occupied in some activity such as watching television, seem to be less anxious than patients who have not been involved in any activity. You continue to observe many patients and you find that this pattern seems to hold true for most of the patients on the unit where you work.

Your explanation for this phenomenon would involve an inductive reasoning process. An existing anxiety theory might provide an explanation for the phenomenon that was just discussed.

If no existing theory can be located that explains this phenomenon, the researcher may start the process of generating a new theory. After empirical data are gathered on a number of occasions, empirical generalizations are made. The next step is to develop propositional statements. Finally, the propositional statements are logically related to form a theory.

In-text Question

Researchers are concerned with both ---------- and the ----------.

In-text Answer

Theory generation and the development of theories.

3.4 Sources of Theories for Nursing Research

Nurses have available to help them a wealth of theories upon which to base their research. These theories have been developed in nursing and in many other disciplines. At the present time, nurses continue to use many theories from other disciplines.

3.4.1 Theories from Nursing

Although there are a number of nursing conceptual models, only a few theories have been derived from these models. Additionally, there have been a few studies in which these theories have been tested.

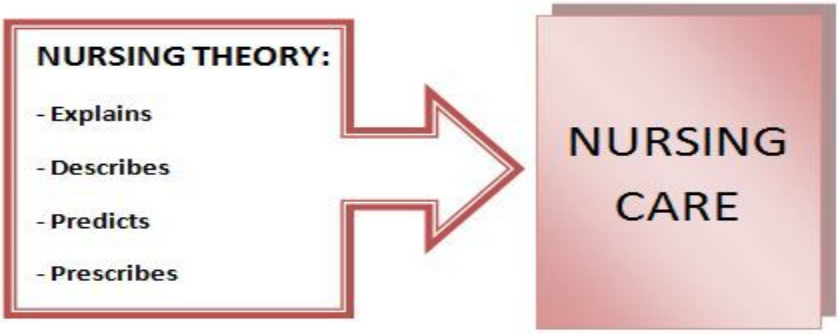


Figure: *Nursing theory*

Source:

http://www.google.com.ng/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&

Abdellah and Levine (1994) wrote that one of the gaps in nursing research is the lack of tested nursing theories. Some nurses have even questioned the usefulness of nursing theories. Others, such as Rosemarie Parse, have made string pleas for the use of nursing theories in nursing research.

In an editorial in *Nursing Science Quarterly* (Parse, 1996), Parse wrote that ‘’knowledge continues to be expanded through nursing- based research studies and practice projects, offering much promise for survival of the discipline in the 21st century. She asserted that articles on nursing theory- based research and practice are being published in journals in greater number than ever before. She also mentioned the growing number of international conferences that focus on nursing theory.

Although nurse researchers have generally used theories that were not developed by nurses, there are many examples in the literature of studies that relied on the theoretical

work of nurses. Examples of studies that used Orem's, Rogers', and Neuman's models were presented earlier.

Additional theories developed by nurses can be identified in published studies. Some of these include Cox's (1982) interaction model of client behavior (IMCHB), Mishel's (1988) uncertainty theory, King's (1981) theory of goal attainment, Pender's (1987) health promotion model, and Peplau's interpersonal theory (1988). An example of a study that used Mishel's theory and one that used Peplau's theory will be presented.

Mishel's theory of uncertainty in illness (Mishel, 1988) was used to examine the relationships among illness uncertainty, stress, coping, and emotional well- being of clients with multiple sclerosis who were beginning a drug trial (Wineman, Schwetz, Goodkin, & Rudick, 1996).

The results suggested that when a client enters a drug trial with high levels of illness uncertainty and stress, he or she is likely to experience mood disturbances and not be very hopeful about the effectiveness of the drug that is being prescribed.

Peplau's interpersonal theory (Peplau, 1988) was used as the framework to study nursing students' knowledge and anxiety about AIDS (Bower, Webb, & Stevens, 1994). Peplau's theory describes the relationship between anxiety and learning.

The experimental group attended a 6-hour workshop where participants were given information about AIDS and participated in exercises that focused on anxiety awareness. Findings indicated that recognition of anxiety contributed to students' learning about AIDS.

In-text Question

---------- is not a theory developed by nurses that can be identified in published studies.

a. Cox's interaction model of client behavior
b. Uncertainty theory
c. Theory of goal attainment
d. Killing the sick theory

In-text Answer

d. Killing the sick theory

3.4.2 Theories from Other Disciplines

Nursing is referred to as a practice discipline. It has been said frequently that nursing, as a practice discipline, has ‘’borrowed’’ knowledge from other disciplines, such as chemistry, biology, sociology, psychology, and anthropology. Levine (1995) has opposed the use of the term ‘’borrowed’’.

She said it indicates that something needs to later be ‘’returned’’. Levine wrote, ‘’the fruits of knowledge are not the private domain of one discipline, to be returned like a borrowed cup of sugar to a neighbor’’.

The use of knowledge from other disciplines is necessary, but frequently this knowledge is not suitable to the needs of the nursing profession. Nurses must find a way to adapt the numerous theories from other disciplines. Once these theories have been adapted, they should be considered as shared knowledge rather than as borrowed theories (Stevens, 1979).

Table 3.1 presents theories from other disciplines that have been used to explain phenomena in nursing. These theories concern concepts such as social learning, role socialization, stress, helplessness, cognitive dissonance, human development, motivation, crisis, relaxation, pain, anxiety, body image, job satisfaction, family interactions, communication, coping, moral reasoning, health behaviors, and change. Many nursing studies have used theories from other disciplines.

THEORIES FROM OTHER DISCIPLINES
1. Social learning theory: Bandura (1986); Rotter (1954)
2. Adult learning theory: Knowles (1980)
3. Role theory: Mead (1934)
4. Stress: Selye (1976)
5. Helplessness: Seligman (1975)
6. Cognitive dissonance: Festinger (1957)
7. Developmental theory: Piaget (1926); Freud (1938); Erikson (1950); Havighurst (1952)
8. Motivation: Maslow (1970)
9. Crisis: Caplan (1964)
10. Relaxation: Benson (1975)
11. Pain: Melzack and wall (1983)
12. Anxiety: Spielberger (1972)

13. Body image: Schilder (1952)
14. Job satisfaction: Herzberg (1966)
15. Family communication theory: Satir (1967)
16. Family theory: Minuchin (1974); Duvall (1977)
17. Coping: Lazarus and Folkman (1984)
18. Moral reasoning: Kohlberg (1978)
19. Change theory: Lewin (1951)
20. Health behaviors: Becker (1985)

Summary of Study Session 3

Theories are used by everyone to explain happenings in their lives and in their environments. Theories are also used by nurses to explain happenings of significance to nursing. The following are terminologies used when discussing theories- theory, concept, Construct, variable, proposition, empirical, generalization, and model etc.

There are two main types of theories- grand theories and middle-range theories. Grand theories are concerned with a broad range of phenomena in the environment or in the experiences of humans. Middle-range theories have a much narrow focus; they are concerned with only a small area of the environment or of human experiences and incorporate a small number of concepts.

Researchers are concerned with both theory generation and the development of theories. Theory generation and development involve both inductive and deductive reasoning processes. Deductive reasoning proceeds from the general (theory) to the specific (empirical data). Inductive reasoning, on the other hand, proceeds from the specific (empirical data) to the general (theory).

Nurses base their researches on various theories. These theories have been developed in nursing and in many other disciplines. At the present time, nurses continue to use many theories from other disciplines.

Self-Assessment Questions (SAQs) for Study Session 3

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 3.1 (Testing Learning Outcome 3.1)

Briefly explain the term Variables

SAQ 3.2 (Testing Learning Outcome 3.2)

Discuss the types of theories

SAQ 3.3 (Testing Learning Outcome 3.3)

Explain inductive and deductive reasoning

SAQ 3.4 (Testing Learning Outcome 3.4)

Why does the nursing discipline use theories from other field.

Notes on the Self-Assessment Questions (SAQs) for Study Session 1

SAQ 3.1

Variables are the concepts that are observable, measurable, and have a dimension that can vary. **Dependent Variable** is a variable that is influenced by other variables.

Independent Variable is a variable that has been selected as a possible influence on variations in a dependent variable.

Control Variable is a variable that is taken into account in exploring the relationship between an independent variable and a dependent variable.

SAQ 3.2

Grand theories are concerned with a broad range of phenomena in the environment or in the experiences of humans.

Middle-range theories have a much narrow focus; they are concerned with only a small area of the environment or of human experiences and incorporate a small number of concepts.

SAQ 3.3

Deductive reasoning proceeds from the general (theory) to the specific (empirical data). The deductive process moves from a general abstract explanation to a specific event in the real world.

Inductive reasoning, on the other hand, proceeds from the specific (empirical data) to the general (theory).

SAQ 3.4

Nursing is referred to as a practice discipline. It has been said frequently that nursing, as a practice discipline, has ‘’borrowed’’ knowledge from other disciplines, such as

chemistry, biology, sociology, psychology, and anthropology. The use of knowledge from other disciplines is necessary, but frequently this knowledge is not suitable to the needs of the nursing profession. Nurses must find a way to adapt the numerous theories from other disciplines.

Study Session 4: Nursing Research and Theories

Introduction

Lately, the relationship between nursing theory and research has gained more attention. It appears that in the past two decades more research work have been published. Research and Theory for Nursing Practice has the objective of improving nursing practice, education, and patient care. These articles strive to discuss knowledge development in its broad sense, reflect research using a variety of methodological approaches.

These studies also combine several methods and strategies in a single study because of the journal's international emphasis, article donors address the effects of their studies for a global audience. Therefore, the nursing research studies has increased (from 13% to 21%), but the use of nursing theories has been minimal. Although research results are cumulated progressively in regard to theory or to other researches, our study focuses on Nursing Research and its Theories.

Learning Outcomes for Study Session 4

At the end of this study, you should be able to:

4.1 Discuss theory testing in nursing research

4.2 Discuss various types of theoretical and conceptual models as research framework

4.1: Theory Testing in Nursing Research

In the early stages of a research project, the researcher should consider the theoretical or conceptual framework for the study. The framework for the study is usually determined after a thorough review of the literature. If nursing is to build a scientific knowledge base, nursing studies should be based on a theoretical or conceptual framework so that the findings may be placed within the existing knowledge base for the profession.

The most efficient way to obtain a body of knowledge for nursing is to build on the work of other researchers who have used the same theoretical base. Even a small research project becomes quite important when the study can be added to those of others who have used the same theoretical frame of reference.

***Figure 4.1**: A Nursing Research center*
***Source**: http://wp.vcu.edu/nursing/2008/07/16/dr-mary-jo-grap-selected-for-n/*

Many studies are conducted in which the researchers wish to study a particular problem but have no theory in mind that will be tested. In such cases, an attempt should be made to select a theory that will be useful in guiding the study. Sometimes more than one theory might be appropriate, but the researcher should choose the one that seems to describe and explain the relationship between the study variables better than other available theories.

Choosing a theory for a study may be a difficult task, especially for the beginning researcher. Descriptions of theories may be obtained through many sources. Various books and articles contain information about theories. Once a theory has been selected, it is wise to consult the original or primary source of the theory.

For example, if information is sought on **Maslow's theory of motivation**, Maslow's (1970) book should be read. By using a primary source, the researcher will gain the most accurate description of the theory as presented by the theorist.

The chosen theory should be considered throughout the research process. A step-by-step use of the chosen theory requires that the researcher:

1. Review various theories that may be appropriate to examine the identified problem

2. Select a theory to be tested in the study
3. Review the literature on this theory
4. Develop study hypothesis or research questions basic on a propositional statement or statements from the theory
5. Define study variables using the selected theory as the basis of the theoretical definitions
6. Choose study instruments that are congruent to the theory
7. Describe study findings in light of the explanations provided by the theory
8. Relate study conclusions to the theory
9. Determine support for the theory based on study findings
10. Determine implications for nursing based on the explanatory power of the theory
11. Make recommendations for future research concerning the designated theory

In Text Question

The most efficient way to obtain a body of knowledge for nursing is to build on the work of other researchers who have used the same theoretical base. TRUE/FALSE……?

In Text Answer

TRUE

Theory generation and building through research are essential to the development of scientific knowledge. Because the nursing profession is very concerned at present with the need for nursing knowledge, it can be seen that an understanding and the use of theory are critical for all nurses. Theory is of little benefit to the profession if it is deemed to be unimportant by the rank-and-file members.

It is hoped you will become convinced of the value of theory that has been tested through research. You can help spread the message to your nursing colleagues.

4.2: Nursing Conceptual Models

Conceptual models are models made up of concepts and propositions that state the relationship between the concepts. These concepts are generally very abstract and are not readily observable in the empirical world. Conceptual models in nursing present broad general concepts of interests to nursing.

Common concepts identified in nearly all of the nursing models are person, environment, health and nursing (Fawcett, 1993; Fitzpatrick & Whall, 1996; George, 1995). Each nursing model addresses these elements in a unique fashion.

4.2.1: Conceptual Models

Several nurse theorists have developed conceptual models concerned with the phenomena of importance to nursing. These nurses include Dorothea Orem, Martha Rogers, Callista Roy, and Betty Neuman. Attempts to develop theories based on these models have been carried out by some of these theorists as well as the background for theory development. A brief overview of the models introduced by these four nurse theorists will be presented.

Orem's Self-Care Model

Dorothea Orem's ideas about self-care first appeared in the nursing literature in the late 1950s. The most recent modifications of her ideas are found in the fourth edition of her text nursing: Concepts of Practice which was published in 1991. Her model focuses on each person's role in self-health care. Self- care involves activities that people generally know how to take care of themselves.

***Figure 4.2**: Dorothea Orem*

***Source**: https://s-media-cache-ak0.pinimg.com/736x/d5/27/bd/d527bd86b576b8d1b16cf16b072104b9.jpg*

According to each person's ability to meet self- care needs, the nurse provides ''wholly compensatory'', ''partially compensatory'', or ''supportive- educative'' care. Wholly compensatory care is provided when the patient is totally unable to perform self- care activities. Partially compensatory care is provided when the patient has some ability to perform self- care activities.

Finally, in many instances, the patient needs only supportive-educative care to assist in meeting self- care activities. Orem's model is particularly appropriate today with the general public's increased interest in enhancing physical and psychological well- being.

Beach et al. (1996) used Orem's Self- Care Deficit Theory to study factors associated with a patient's self- care activities after an acute myocardial infarction. These factors were divided into Orem's three categories of self- care limitations:

- ✓ Limitations of knowing,
- ✓ Limitations for making judgments and decisions,
- ✓ Limitations in engagement in result- achieving courses of action. The top- ranked limitation was ''patterns of personal or family living that interfere with self-care.

Roger's Model of the Unitary Person

One of the most unusual conceptual models in nursing is that proposed by Martha Rogers. She first presented her ideas in her 1970 book An Introduction to the Theoretical Basis of Nursing. By the time she died in 1994, her ideas had made a great impact on nursing and probably will continue to do so for many years to come.

She continually refined her model, and when she spoke to groups of nurses in later years she frequently asked that they discuss her most current ideas rather than those presented in her 1970 book (which she called ''the purple book''). Just as she viewed humans as continually evolving, her ideas were continually evolving. She originally referred to a theory of ''unitary man''. In later years, she used the term ''unitary person''.

Figure 4.3: *Martha Rogers*

Source: *http://upload.wikimedia.org/wikipedia/commons/5/5d/Martha_Rogers,_Ph.D.jpg*.

Humans and their environment are viewed as two energy fields that are always open to each other. Each human field is unique, and change is always toward increasing complexity and diversity. There is no repetition in the life of a person. The human field continually reorganizes into a new and novel form. Aging is viewed as a ‘’creative process directed toward growing diversity of field pattern and organization’’ (Rogers, 1980).

Rogers’ model is unique in that the person is viewed as a unified whole. No parts or subsystems are separated out. Although other models propose to present a holistic view of people, this view is often contradicted by the models’ examination of the parts or subsystems of people.

Rogers’ conceptualized model was used as the framework for Yarcheski and Mahon’s (1995) study of health in adolescents. The researchers studied human field rhythms, creativity, and sentience in relation to perceived health status in 106 early, 111 middle, and 113 late adolescents. Significant positive correlations were found between perceived field motion and perceived health status in early, middle, and late adolescents.

The researchers also found a significant positive correlation between human field rhythms and perceived health status in late adolescents and a significant positive relationship between creativity and perceived health status in late adolescents.

In Text Question

These factors were divided into Orem's three categories of self- care limitations except one?

(a) Limitations of knowing (b) Limitations for making judgments and decisions (c) Limitation in Patients (d) Limitations in engagement in result

In Text Answer

(b) Limitation in Patients

Roy's Adaptation Model

Roy first published her ideas about adaptation as a framework for nursing in a 1970 article in Nursing Outlook. She has continued to publish extensively on her model. The most thorough presentation of her ideas is found in the second edition of her text, Introduction to nursing: An Adaptation Model, which was published in 1984. In her work, humans are considered to be bio-psychosocial beings in constant interaction with the changing environment.

A person must adapt to a variety of stimuli called ''focal'', ''contextual'', and ''residual''. Focal stimuli are those that immediately confront a person in a given situation, such as loss of a loved one, involvement in a car accident, or loss of a job. Contextual stimuli are background stimuli that include the person's sex, developmental state, coping mechanisms, and the surrounding environment. Residual stimuli concern beliefs, attitudes, and traits.

The model stresses that the person needs a nurse when unusual stresses occur or coping mechanisms are weak. Nurses use the nursing process to help adapt in four different modes:

- Physiological needs,
- Self- concept,
- Role function
- Interdependence

Roy has pointed out that nursing focuses on the person as a total being, whereas, medicine focuses on the patient's disease process.

Robinson (1995) used Roy's Adaptation Model in her study of the grief responses of widows. The bereavement event was viewed as the focal stimulus. Contextual stimuli (social support, social network, income/education, spiritual beliefs) were related to coping, which was in turn, related to the adaptation outcome (grief response). A significant correlation was found between the widows' coping processes and their grief responses.

In Text Question

Contextual stimuli are …….. stimuli that include the person's sex, developmental state, coping mechanisms

(a) Focal (b) Contextual (c) Residual (d) Background

In Text Answer

(d) Background

Neuman's Systems Model

The Neuman model first appeared in a 1972 article in Nursing Research. It was also presented in Riehl and Roy's Conceptual Models for Nursing Practice (both in the 1974 and the 1980 editions). Betty Neuman presented refinements of the model in the 1982, 1989, and 1995 editions of her book The Neuman Systems Model.

Nursing interventions may occur at the primary, secondary, or tertiary levels of prevention. Primary prevention is appropriate before reaction to a stressor has occurred. Secondary prevention is used when reaction to a stressor has already occurred. Tertiary prevention is used to foster rehabilitation and a return to wellness. The nursing process is divided into three steps: nursing diagnosis, nursing goals, and nursing outcomes.

Figure 4.4*: Betty Neuman*

Source*: http://fiuc.org/w/cms/BlogNEWS/NEWS/Betty_Neuman_3%20v2.jpg*

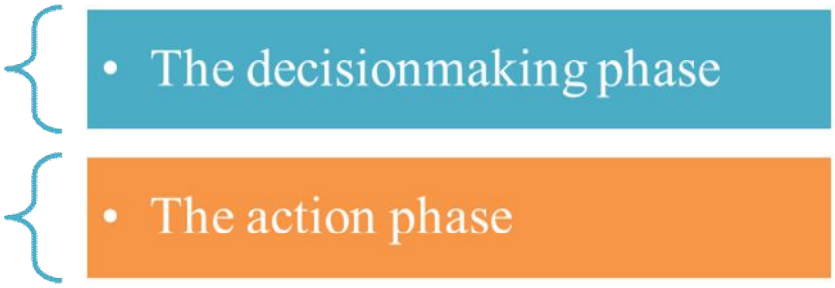
Neuman's model was used to study parents' perception of the stressors of pediatric ambulatory surgery (Maligalig, 1994). Parents identified intrapersonal, interpersonal, and extrapers

onal categories of stressors. Intrapersonal stressors included anxiety about the child's feelings and reactions to surgery. Interpersonal stressors included the parents' feelings of separation anxiety when their child went into the operating room.

Extra-personal stressors identified by parents concerned their responsibilities in caring for the child at home and the availability of resources to use if problems occurred at home.

4.2.2 The Health Promotion Model

Nola Pender's (1996) Health promotion Model (HPM) focuses on explaining health-promoting behaviors, using a wellness orientation. According to the model, health promotion entails activities directed toward developing resources that maintain or enhance a person's well-being. The HPM encompasses two phases:



Theoretical and Conceptual Frameworks

A framework for a research study helps to organize the study and provides a context for the interpretation of the study findings. Either a theoretical or conceptual framework should be used in all quantitative studies. Theoretical and conceptual frameworks are often used interchangeably in the literature. The two frameworks are similar in that both provide a background or foundation for a study. However, there are differences in these two types of frameworks.

A theoretical framework presents a broad, general explanation of the relationships between the concepts of interest in a research study; it is based on one existing theory. When using a theoretical framework in a study, each main study concept is related back to a concept from an existing theory. A proposition from a selected theory will be tested in any study based on that particular theory.

Suppose a teacher wanted to know if contracting for grades would motivate students to earn higher grades. After exploring different theories, she might decide to test a proposition from Carl Rogers (1969) theory of learning. One of Rogers' propositions is that learning is facilitated when the student participates responsibly in the learning process. The two concepts are ''learning'' and ''participates responsibly in the learning process''.

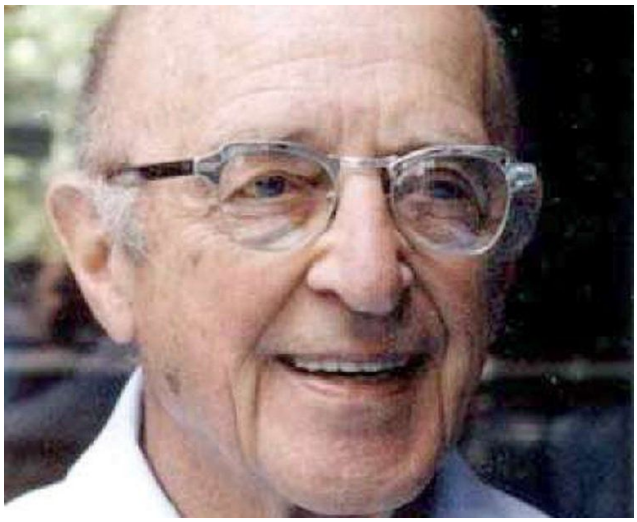


***Figure 4.5**: Carl Rogers*

***Source**: http://www.thefamouspeople.com/profiles/images/carl-rogers-1.jpg*

The two study concepts that can be matched up with these two theory concepts are ‘’earn higher grades’’ (which would match up with ‘’learning’’) and ‘’contracting for grades’’ (which will match up with ‘’participates responsibly in the learning process’’). Thus, based on the stated proposition from Rogers’ theory, the researcher would be able to predict that students who contract for grades would earn higher grades than students who do not contract for grades.

If there is no existing theory that will fit the concepts to be studied, the researcher may construct a conceptual framework to be used in the proposed research study. A conceptual framework helps to explain the relationship between concepts but rather than being based on one theory, this type of framework links concepts selected from several theories, from previous research results, or from the researcher’s own experiences.

The researcher relates the concepts in a logical manner. A conceptual framework is a less well- developed structure than a theoretical framework but may serve as the impetus for the formulation of a theory.

The findings of a study should be related back to the study framework. Otherwise, numerous isolated findings would be in existence for each study. The concrete findings are linked to the abstract ideas of the theory or to the propositions proposed by the researcher in the conceptual framework. Thus, an explanation for the study findings is presented and the body of knowledge on the study topic is increased.

SUMMARY to Study Session 4

In this module, we have attempted to critically examine theory and nursing research. The following were considered: various theory terminologies were defined; different types of theories were discussed as well as the process of theory generation and development. Similarly, different sources of theories for nursing research were considered along with theory testing in nursing research.

The module was wrapped off with various types of theoretical and conceptual models as research framework. Theory generation and building through research are essential to the development of scientific knowledge.

Self-Assessment Question (SAQs) for Study Session 4

SAQ 1 (Tests Learning Outcome 4.1)

List the step by step use of theory in a research

SAQ 2 (Tests Learning Outcome 4.2)

Discuss Orem's Self-Care Model

Notes to SAQs for Study Session 4

SAQ 1

A step-by-step use of the chosen theory requires that the researcher:

1. Review various theories that may be appropriate to examine the identified problem
2. Select a theory to be tested in the study
3. Review the literature on this theory
4. Develop study hypothesis or research questions basic on a propositional statement or statements from the theory
5. Define study variables using the selected theory as the basis of the theoretical definitions
6. Choose study instruments that are congruent to the theory
7. Describe study findings in light of the explanations provided by the theory
8. Relate study conclusions to the theory
9. Determine support for the theory based on study findings
10. Determine implications for nursing based on the explanatory power of the theory

11. Make recommendations for future research concerning the designated theory.

SAQ 2

Orem's Self-Care Model

Dorothea Orem's ideas about self-care first appeared in the nursing literature in the late 1950s. The most recent modifications of her ideas are found in the fourth edition of her text Nursing: Concepts of Practice, which was published in 1991. Her model focuses on each person's role in self-health care. Self- care involves activities that people generally know how to take care of themselves.

According to each person's ability to meet self- care needs, the nurse provides ''wholly compensatory'', ''partially compensatory'', or ''supportive- educative'' care. Wholly compensatory care is provided when the patient is totally unable to perform self- care activities. Partially compensatory care is provided when the patient has some ability to perform self- care activities.

Study Session 5: The Research Proposal

Research proposals are documents describing what researchers propose to study, prepared before a project has commenced. A research proposal is a written plan that identifies the major elements of a study, such as the research problem, purpose, and framework, and outlines the methods and procedures to conduct the study. A proposal is a formal way to communicate ideas about a proposed study to receive approval for conducting the study and to seek funding.

In this study session, you will learn about the writing of a research proposal, its functions, contents and seeking approval for a study.

Learning outcomes for Study Session 5

At the end of this study session, you should be able to:

5.1 Writing a research proposal
5.2 Discuss the functions of a proposal
5.3 Content of a research proposal
5.4 Seeking approval for a study
5.5 Verbal defense of a proposal

5.1 Writing a Research Proposal

Writing a quality proposal involves: developing ideas logically, determining the depth or detail of the proposal's content, identifying critical points in the proposal, and developing an aesthetically appealing copy.

1. **Developing ideas logically**

   The ideas in a research proposal must logically build on each other to justify or defend a study. A case is built to justify why a problem should be studied, and appropriate methodology for conducting the study id proposed. Each step in the research proposal builds on the problem statement to give a clear picture of the study and its merit.

2. **Determining the depth of a proposal**

   The depth of a proposal is determined by guidelines developed by schools of nursing, funding agencies, and institutions where research is conducted. Guidelines provide specific directions for the development of a proposal and should be followed explicitly. The content in a proposal needs to be detailed enough for reader, yet concise enough to be interesting and easily reviewed.

3. **Identifying critical points**

   The key or critical points in a proposal must be clear, even to a hasty reader. Critical points might be highlighted with bold type or italicized. Content considered to be critical in a proposal are the background and significance of the research problem; method; and research production plans (data collection and analysis, plan, personnel, schedule, and budget).

4. **Developing an aesthetically appealing copy**
   An aesthetically appealing copy is typed without spelling, punctuation, or grammatical errors. The format used in typing the proposal should follow the guidelines developed by the reviewer.

In-text Question

Writing a research proposal has to do with one of the following

A. Developing ideas strategically
B. Developing ideas logically
C. Making ideas appealing
D. Developing ideas magically

In-text Answer

Answer is B, developing ideas logically.

5.2 Functions of a Proposal

Research proposals are an integral part of most studies, and are typically prepared after a researcher has identified a topic, developed research questions or hypotheses, and undertaken a literature review.

1. Research proposals usually help researchers to clarify their own thinking
2. Represent the means for opening communication between researchers and parties interested in the conduct of research. The parties are typically either funding agencies or faculty advisers, whose job it is to accept or reject the proposed plan, or to demand modifications
3. Proposals often serve as the basis for negotiation with other parties as well.
4. Ensures that all researcher in case of collaboration are “on the same page” about how the study is to proceed, and who is responsible for which tasks.

In-text Question

A research proposal hinders researchers from clarifying their thinking. TRUE OR FALSE

In-text Answer

FALSE

5.3 Content of a Research Proposal

The content of a proposal is written with the interest and expertise of the reviewers in mind. Reviewers of research proposals, whether they are faculty, funding sponsors, or peer reviewers want a clear idea of what the researcher plans to study, what specific methods will be used to accomplish study goals, how and when various tasks are to be accomplished, and whether the researcher is capable of successfully completing the project.

The content of a proposal varies with the reviewer, the guidelines developed for the review, and the type of study (quantitative or qualitative) proposed.

1. **Front Matter**

   Proposals typically begin with what is referred to as **front matter,** which orients readers to the study and, in case of proposals for funding, contains administrative information. The front matter typically includes, at a minimum, a cover page that indicates the title of the proposed study and the author's name and institution.

   The proposed title should be given careful thought. The title should be concise and informative, but should be compelling and interesting. The proposal titles should indicate the phenomena to be studied, and the population of interest.

2. **Abstract**

   Proposals must always begin with a brief synopsis of the proposed project. The abstract helps to establish a frame of reference for reviewers. The abstract should be brief (between 200 and 300 words) and should state concisely the study objectives and methods to be used. Although an abstract appears at the beginning of a proposal, it is often written last.

3. **The problem and its significance**

   The problem that the intended research will address is identified early in the proposal. The problem statement should clearly indicate the scope and importance of the problem, conveying any potential application to clinical practice. The proposal needs to describe clearly how the proposed research will contribute to knowledge and to the enhancement of evidence-based practice.

   The proposal should indicate the expected generalizability of the research, its contribution to theory, its potential for improving nursing practice, and possible applications or consequences of the knowledge to be gained.

4. **Background of the problem**

   A section of the proposal is usually devoted to a description of how the intended research builds on an existing base of evidence, and how, if appropriate, it is linked to a conceptual model. The background material should strengthen arguments about the study's significance, orient readers to what is already known about the problem, and indicate how the proposed study will enhance the knowledge.

In-text Question

Proposals must always begin with a……..of the proposed project.

In-text Answer

Brief synopsis

5. **Objectives**

   Specific achievable objectives provide the reader with clear criteria against which the proposed research methods can be assessed. Objectives stated as research hypotheses or specific models to be tested are often preferred.

6. **Method**

   The explanation of the research methods should be thorough enough that readers will have no question about how research objectives will be addressed. A thorough method section includes the following:

   The research design: for experimental research a description of both the treatment and the control group condition;

   The sampling plan: data collection methods and operational definitions of key variables; procedures to be adopted; strategies for coding, storing, reducing, and analyzing data, including any software to be used; methods of safeguarding human (or animal) subject.

7. **The work plan**

   Researchers indicate in the work plan the sequence of tasks to be performed, the anticipated length of time required for their completion, and the personnel required for their accomplishment.

5.3.1 Content of a Quantitative Research Proposal

Chapter I Introduction

a. Background and significance of the problem
b. Statement of the problem
c. Statement of the purpose

Chapter II Review of relevant literature

a. Review of relevant theoretical literature
b. Review of relevant research
c. Summary

Chapter III Framework

a. Development of a framework
b. Formulation of objectives, questions, or hypotheses
c. Definitions (conceptual and operational) of research variables
d. Definitions of relevant terms
e. Identification of assumptions

Chapter IV Methods and Procedures

a. Description of the research design (model of the design, strengths and weaknesses of the design, and description of treatment if applicable)
b. Identification of the population and sample (sample size; use of power analysis; sampling criteria; and sampling method)
c. Selection of a setting (strengths and weaknesses)
d. Presentation of ethical considerations (protection of subjects' right)
e. Selection of measurement methods (reliability, validity, scoring, and level of measurement of instruments, as well as plans for examining reliability and validity of the instruments, in the preset study; precision and accuracy of physiological instruments)
f. Plan for data collection (data collection process, training of data collectors if applicable, schedule, data collection forms, and management of data)
g. Plan for data analysis (analysis of demographic data; analyses for research objectives, questions, or hypotheses; level of significance if applicable; and other analysis techniques

h. Identification of limitations (methodological and theoretical limitations)
i. Discussion of communication of findings
j. Presentation of a study budget and timetable

References

Appendices

5.3.2 Content of a Qualitative Research Proposal

Chapter I Introduction

A. Identify the phenomenon to be studied
B. Identify the study aim or purpose
C. Describe the evolution of the study
    1. Provide a rationale for conducting study
    2. Place the study in context historically
    3. Discuss the researcher's experience with phenomenon
    4. Discuss the relevance of the study to nursing

Chapter II Research paradigm or general method for proposed study

A. Identify the type of qualitative research (phenomenological, grounded theory, ethnographic, historical, philosophical inquiry, or critical social theory) to be conducted
B. Describe the philosophical basis for the research method
C. Explain the research assumptions
D. Discuss the general steps, procedures, and outcomes for this method
E. Translation of concepts or terms

Chapter III Method of inquiry: Applied

A. Demonstrate the researcher's credentials for conducting this qualitative study
B. Select a site and population
C. Describe the plan for the researcher's role in the following
    1. Entry into the site and approval to collect data
    2. Selection of study participants
    3. Ethical considerations

D. Describe the plan for data collection
   1. Date to be collected
   2. Procedures for data collection
   3. Procedures for recording data during data collection

E. Describe the plan for data analysis
   1. Steps for coding information
   2. Use of specific data analysis procedures advanced in the specific research method (phenomenology, grounded theory, ethnography, historical, philosophical inquiry, or critical social theory)
   3. Steps to be taken to verify the information

Chapter IV Current knowledge, Limitations, and Plans for Communication of the Study

A. Summarize and reference relevant literature as appropriate for the type of qualitative study
B. Disclose anticipated findings, hypotheses, and hunches
C. Discuss procedures to remain open to unexpected information
D. Discuss limitations of the study
E. Identify plans for communication of findings (Boyd & Munhall, 2001; Creswell, 1994; Munhall 2001; Patton 2002)

References Include references cited in the proposal and follow APA (2001) format

Appendices Present the study budget and timetable

5.4 Seeking Approval for a Study

Seeking approval to conduct a study is an action that should be based on knowledge and guided by purpose. Obtaining approval for a study from a research committee requires understanding the approval process, writing a research proposal for review, and in many cases verbally defending the proposal.

Clinical agencies and health care corporations review studies for the following reasons:

1. To evaluate the quality of the study
2. To ensure that adequate measures are being taken to protect human subjects
3. To evaluate the impact of conducting the study on reviewing institutions (Fullwood et al., 1999).

Approval process

An initial step in seeking approval is to determine exactly what committee in which agencies must grant approval before the study can be conducted.

5.5 Verbal Defense of a Proposal

Students writing theses or dissertations are frequently required to defend their proposal verbally to their University committee members. In a verbal defense, reviewers can evaluate the researcher as a person, the researcher's knowledge and understanding of the content of the proposal, and his/her ability to reason and provide logical explanations related to the study.

Appearance is important in a personal presentation because it can give an impression of competence or incompetence. These presentations are business-like with logical and rational interactions, so one should dress in a business-like manner. Casual dressing may give the impression that the individual does not value the review process.

Nonverbal behaviour is important as well, so appearing calm, in control, and confident projects a positive image. Planning and rehearsing a presentation can reduce anxiety.

The verbal defense usually begins with a brief presentation of the study. The presentation needs to be carefully planned, timed, and rehearsed. Salient points should be highlighted, which can be accomplished by the use of audiovisuals.

Activity 5.1

Time allowed: 15mins

Suppose that you are interested in studying separation anxiety in hospitalized children.

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a. Outline the methods you would recommend
b. Develop a work plan
c. Prepare a hypothetical budget

Summary of study session 5

In this study session, you have learnt that:

This study session focuses on writing a research proposal and seeking approval to conduct a study. A research proposal is a written plan that identifies the major elements

of a study, such as the research problem, purpose, and framework, and outlines the methods and procedures to conduct a study. Writing a quality proposal involves

1. Developing the ideas logically
2. Determining the depth or detail of proposal content
3. Identifying the critical points in the proposal
4. Developing an aesthetically appealing copy

The content of a proposal varies with the reviewers, the guidelines developed for the review, and the type of study (quantitative or qualitative) proposed. A quantitative research proposal usually has four chapters or sections

1. Introduction
2. Review of relevant literature
3. Framework
4. Methods and procedures.

A qualitative research proposal generally includes the following chapters or sections:

1. Introduction
2. Research paradigm and general method
3. Applied method of inquiry
4. Current knowledge, limitations, and plans to communicate the study

A research proposal is a formal way to communicate ideas about a proposed study to receive approval for conducting the study or to seek funding. Research proposals are reviewed to.

1. Evaluate the quality of the study
2. Ensure that adequate measures are being taken to protect human subjects
3. Evaluate the impact of conducting the study of the reviewing institution

References

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