Lecture 1
Introduction to Nursing Research

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Nursing Research– Learning Objectives

By the end of this lecture, students will be able to:

1. Define research and nursing research.
2. Explain the purpose and importance of nursing research.
3. Identify current trends in nursing research.
4. Types of research
5. Types of Variables

Nursing Research

- **Research** is a systematic process that uses disciplined methods to answer questions and solve problems. Its ultimate goal is to generate knowledge that can benefit many people.
- Research means to **search again** or examine carefully. It investigate the old knowledge and generate new knowledge. Systematic means carried on in step-by-step procedure, methodical or orderly.

Nursing research is a systematic inquiry aimed at developing evidence about issues that are important to nurses and their clients. Nurses conduct research to address challenges in nursing education and nursing administration. However, this text focuses on clinical nursing research

Clinical nursing research intended to guide nursing practice and enhance the health and quality of life of clients. Clinical nursing research usually begins with questions arising from real-world practice problems-issues that nurses may have already encountered in their work

Importance of Research in Nursing

1. Emphasizing on the development and utilization of nursing knowledge, which is essential for continued improvement in patient care.

2. Reinforce the identity of nursing as a profession.

3. Nurses need to document the effectiveness of their practice to improve patient outcomes, guide professional practice, and support cost-effective health care through research findings..

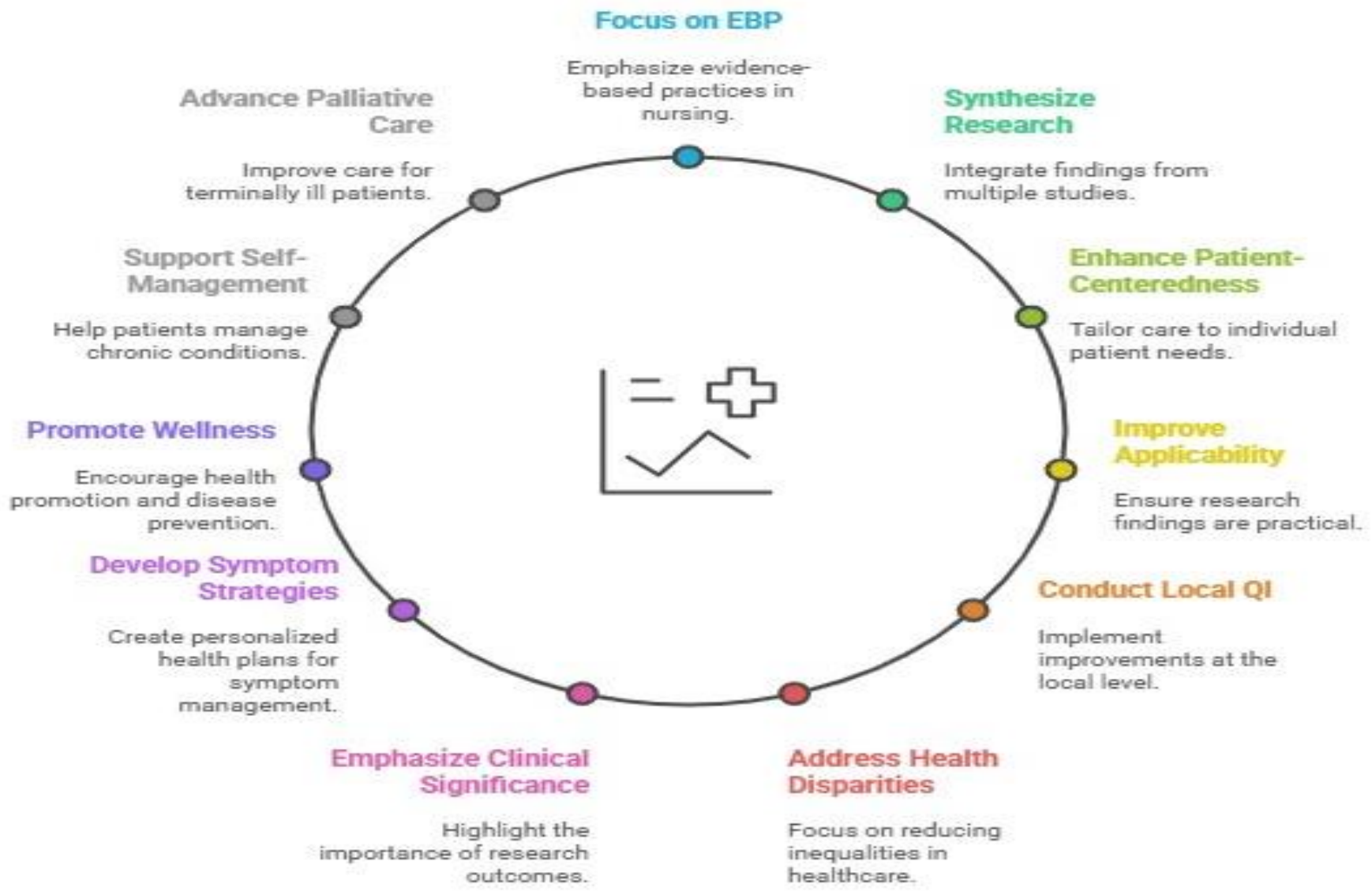
4. Nurses' need for understanding the varied dimensions of their profession (theoretical, ethical, practical dimensions, etc.).

Purpose of Nursing Research:

- The general purpose of nursing research is to answer **questions** or solve **problems** of relevance to the nursing profession.
- As a profession nursing must hold its members accountable for providing **safe**, **cost-effective**, and **efficient care**.
- **Purpose of Nursing Research:**

1. Identification and description
2. Explanation
3. Exploration
4. Prediction and
5. control

Current and Future Trends in Nursing Research



Major types of research

1. Quantitative research is the process of collecting and analyzing numerical data. It can be used to find patterns and averages, make predictions, test causal relationships, and generalize results to wider populations.

- Quantitative research is a systematic and empirical approach to investigating phenomena.

- Key Characteristics:

✓ Uses numeric data that can be counted or measured.

✓ Data is observable and measurable, ensuring objectivity.

✓ Focuses on quantifying relationships, testing hypotheses, and generalizing findings.

- Purpose: To produce reliable, valid, and generalizable results that can explain patterns, test theories, or predict outcomes.

Title: *"The Effect of Exercise Frequency on Blood Pressure among Hypertensive Adults in Al-Diwaniyah City."*

Objective: To determine whether regular exercise (measured in times per week) significantly reduces systolic and diastolic blood pressure levels among adults diagnosed with hypertension.

Methodology:

- **Design:** Experimental (Pre-test/Post-test design).
- **Sample:** 100 hypertensive adults (aged 40–60 years).
- **Data Collection:** Blood pressure readings were taken before and after a 12-week exercise program.
- **Instrument:** Digital sphygmomanometer.
- **Data Analysis:** Statistical tests (t-test and regression analysis) were used to determine the relationship between exercise frequency and blood pressure reduction.

Expected Results:

Participants who exercised at least 3 times per week will show a statistically significant decrease in both systolic and diastolic blood pressure compared to those who exercised less frequently.

2. Qualitative research involves collecting and analyzing non-numerical data (e.g., text, video, or audio) to understand concepts, opinions, or experiences. It can be used to gather in-depth insights into a problem or generate new ideas for research.

- Qualitative research is the opposite of quantitative research, which involves collecting and analyzing numerical data for statistical analysis.
- Qualitative research is commonly used in the humanities and social sciences, in subjects such as anthropology, sociology, education, health sciences, history, etc.
- Qualitative research focuses on understanding phenomena through the insight, perceptions, and experiences of individuals.
- Key Characteristics:

✓ Emphasizes meanings, interpretations, and perspectives rather than numbers.

✓ Does not rely on manipulation or control of variables.

✓ Observes and describes things as they naturally occur.

- Researcher seeks to understand how people interpret events and how those events influence their beliefs, attitudes, and behaviors

Qualitative research- continue

Purpose:

- To gain in-depth understanding of human experiences, motivations, and social or cultural contexts.

Examples in Nursing:

- Exploring patients' experiences of living with chronic illness.
- Understanding nurses' perceptions of ethical dilemmas in practice.
- Studying caregivers' coping strategies in managing Alzheimer's patients.

Feature	Qualitative	Quantitative
Purpose	Explore meaning, experiences, opinions, and perceptions.	Measure and test hypotheses
Data Type	Words, texts	Numbers, statistics
Approach	Subjective, inductive(specific to general)	Objective, deductive (general to specific)
Data Collection Methods	Interviews, focus groups, observations, document analysis	Surveys, questionnaire, experiments, physiological measurements, structured observations
Sample Size	Small, purposive	Large, random
Outcome	In-depth understanding	Statistical significance, Generalizable results
Example	Patient experiences of stress	Number of patients with reduced stress after intervention

Types of research

continue

3. Mixed methods research combines elements of quantitative research and qualitative research in order to answer your research question.

- Mixed methods can help you gain a more complete picture than a standalone quantitative or qualitative study, as it integrates benefits of both methods.
- Mixed methods research is often used in the behavioral, health, and social sciences, especially in multidisciplinary settings and complex situational or societal research.

Variable

- A variable is any factor, trait, phenomena or condition that exist in differing amount or type, quantitative or qualitative.
- Every research problem there are variables that need to be investigated
- You have to identify variables and then to determine them into;
  - Dependant variables
  - Independent variables
  - confounding variable

Types of Variables

1. **Independent variables**

Independent variables are foundational to the structure of research, serving as the factors or conditions that researchers manipulate or vary to observe their effects on dependent variables. These variables are considered "independent" because their variation does not depend on other variables within the study.

- For example, in an experiment to assess the effectiveness of a new teaching method on student performance, the teaching method applied (traditional vs. innovative) would be the independent variable.

Types of Variables

2. Dependent variables

- Dependent variables are the outcomes or effects that researchers aim to explore and understand in their studies. These variables are called "dependent" because their values depend on the changes or variations of the independent variables.
- Essentially, they are the responses or results that are measured to assess the impact of the independent variable's manipulation.
  - For instance, in a study investigating the effect of exercise on weight loss, the amount of weight lost would be considered the dependent variable, as it depends on the exercise regimen (the independent variable).

Types of Variables

3- A **confounding variable** is a **third variable** in a study that **influences both the independent variable and the dependent variable** and can create a misleading or spurious association between them. It **confounds (mixes up)** the true relationship the researcher is trying to measure.

Types of Variables

- Studying the effect of a **new drug** on blood pressure
- Effect of Exercise on Blood Glucose in Diabetic Patients
- effect of Sleep Duration on Immune Function in Adults
- Effect of Smoking on Lung Capacity


Thank
you