Overview of the Research Process

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Terminology

- Study, investigation, or research project
- Subjects, study participants, or informant
- Researcher, investigators, or scientist
**Terminology**

- **Theory:**
  - Systematic, abstract explanation of some aspect of reality. E.g., Roy adaptation theory, Orem self-care theory

- **Variables**
  - Continuous variables
  - Discrete variable → No. of family member
  - Categorical variables
    - Dichotomous→ M vs. F, Yes vs. No
  - Dependent variables (effect)
  - Independent variables (cause)
Major Steps in a Quantitative Study

• Phase 1: The conceptual Phase
  • Finding area of interest and formulating the problem
  • Summarizing the problem
  • Purpose of the study
  • Review the related literature
  • Define the theoretical framework
  • Formulating hypotheses & research questions
Example of Phase 1

• **Title:**
  • Registered Nurses Knowledge, Practice, and Attitudes toward Infection Control Guidelines: A Jordanian National Study

• **Summarizing the Problem:**
  • Various studies worldwide have examined the level of compliance of healthcare workers with infection control guidelines. However, there were no studies in Jordan that assess infection control practices among nursing staff in Jordanian hospitals. Moreover, information about compliance of Jordanian nursing staff with infection control guidelines is also limited.
Example of Phase 1

• **Purpose of the study:**
  • The purpose of this study is to evaluate the infection control practices among nursing staff in Jordanian hospitals at the national level. Furthermore, this national study aims to evaluate knowledge and attitude regarding infection control among Jordanian nursing staff.

• **Define the study framework**
  • **Theoretical definition:** The latest routine approaches and practices applied to nonintact skin, mucous membranes, blood, all body fluids, secretions, and excretions except sweat, regardless of whether or not they contain visible blood to provide a high level of protection to patients, health care workers and visitors from infection (Siegel, Rhinehart, Jackson, & Chiarello, 2007; WHO, 2004).
  • **Operational definition:** latest standard infection control practices published by the CDC or equivalent guidelines adopted by the hospital
Example of Phase 1

- **Review related literature**
  - Themes of the literature review
    - Information about healthcare system in Jordan
    - Jordanian studies regarding infection control
    - International infection control studies

- **State the research questions**
  - What are the Jordanian nursing staff infection control practices?
  - Is there a relationship between Jordanian nursing staff attitude toward infection control and their real practice?
  - Is there a relationship between Jordanian nursing staff attitude toward infection control and their level of infection control knowledge?
  - Is there a relationship between Jordanian nursing staff infection control knowledge and their attitude toward infection control?
Major Steps in a Quantitative Study

- **Phase 2: The Design and Planning Phase:**
  - Select research design
  - Identifying the population
  - Methods to measure research variables
  - Define the sampling plan
  - Conduct a pilot study
Example of Phase 1

- **Select research design**
  - This study utilized the cross-sectional descriptive design to explore the Jordanian staff nurses knowledge, practice and attitude toward infection control guidelines.
- **Identifying the population**
- *The sample of this study will be staff nurses who are on the working schedule of each of the selected hospital. The inclusion criteria for the study sample were:*
  - Registered nurse of either BSN or 3-year diploma;
  - Being currently on the working schedule; and
  - Of a Jordanian nationality
Major Steps in a Quantitative Study

- Phase 3: The Empirical Phase
  - Data Collection
  - Preparing for data analysis

- Phase 4: Analytical Phase
  - Data analysis
  - Interpreting the results
Example of Phase 3

- **Data Collection**
  - IRB approval will be secured
  - Nursing director in each hospital will be asked to provide full list of eligible nurse
  - A simple random sample of the needed number of RNs will be obtained.
  - Potential participants will be informed that the instrument to be filled out and returned to the nursing administrator
  - After returning the instrument each participant will receive a “thank you gift” as a moral incentive for his/her participation.
Example of Phase 3 & 4

- Preparing for data analysis
  - Defining dependent and independent variable
  - Define method and statistical procedures to be used in the analysis
- Data analysis
- Interpreting the results
Prevalence of Patient Risk Factors

- Nosocomial BSIs
- Community-Acquired BSIs
- Uninfected

Risk Factors:
- Other infections
- Trauma
- Anemia
- Malnutrition
- Alcoholism
- Smoking
## Incidence and Case-Fatality

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<th></th>
<th>Incidence</th>
<th>Case-Fatality</th>
<th>Mortality</th>
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<tbody>
<tr>
<td></td>
<td>(Cases per 1,000 admissions)</td>
<td>(%)</td>
<td>(Deaths per 1,000 admissions)</td>
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<tr>
<td>NBSIs</td>
<td>21.7</td>
<td>20.6</td>
<td>4.5</td>
</tr>
<tr>
<td>CBSIs</td>
<td>13.3</td>
<td>13.6</td>
<td>1.8</td>
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</tbody>
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Major Steps in a Quantitative Study

- Phase 5: Dissemination Phase
  - Communicating the findings
  - Utilizing the findings
References

Questions and Answers