Presentation of the Research

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Lecture 6

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What is Scientific Research?

- Definition: Contribution to science through systematic data collection, interpretation, and evaluation.
- Key points: Planned, systematic, problem-solving approach.

Classification of Scientific Research (1)

- By Data Collection Techniques:
- - Observational
- - Experimental
- By Causality Relationships:
- - Descriptive
- - Analytical
- By Relationship with Time:
- - Retrospective
- - Prospective
- - Cross-sectional

Classification of Scientific Research (2)

- By Medium Applied:
- - Clinical
- - Laboratory
- - Social Descriptive Research

Types of Research

- Descriptive Research: Case series, surveillance studies.
- Analytical Research: Observational (cohort, case-control, cross-sectional), Interventional (quasi-experimental, clinical).

Analytical and Observational Research

- Observational Research:
- - Cohort (Prospective, Retrospective, Ambidirectional)
- - Case-Control
- - Cross-Sectional
- Interventional Research:
- - Quasi-Experimental
- - Clinical

Quantitative vs. Qualitative Research

- Quantitative Research:
- - Numerical, statistical analysis, iterative process.
- - Answers the 'what, where, when' of decision-making.
- Qualitative Research:
- - Descriptive, exploratory, uses words.
- - Answers the 'why and how' of decision-making.

Types of Questions in Research

- Academic (Basic): To add to scientific knowledge.
- Applied (Practical): To solve practical problems.

Research as the Fountain of Knowledge

- Research addresses difficulties faced by different sectors.
- Research drives policy decisions and provides guidelines for problem-solving.

Steps in Conducting Research (1)

- Step 1: Define a Research Area
- - Consider broad areas of interest, actual needs, available resources.
- Example: Cardiology.

Steps in Conducting Research (2)

- Step 2: Select a Research Topic
- - Refine to a specific, manageable topic within the area.
- Criteria: Magnitude, seriousness, preventability, curability, feasibility.
- Example: Ischemic Heart Diseases.

Research Objectives

- Clearly state at the beginning of the study.
- Include both General Objectives (Goal) and Specific Objectives.
- Examples:
- - Goal: To contribute to the prevention of Ischemic Heart Disease.
- - Primary Objective: To determine the effect of reducing serum cholesterol on MI occurrence.
- - Secondary Objective: To describe side effects of lowering serum cholesterol.

Developing Research Questions

- Ensure research questions are clear, specific, and aligned with objectives.
- The question should provide new information not easily answered by common knowledge or literature.
- Review literature to refine questions, avoid duplication, and provide scientific background.

Thank you for your attention!