

1. Clinical Research & Writing

Clinical Research & Writing

Marianne Dyke, MHA, MSN, ANP
Assistant Director of Medicine, General Dentistry
Tufts University School of Dental Medicine

(c) 2006, Marianne Dyke, MHA, MSN, ANP¹

2. Purpose

Purpose



-
- To introduce clinical research to students
 - To promote scientific inquiry

“Inquiring minds want to know”

(c) 2006, Marianne Dyke, MHA, MSN, ANP²

3. What is Clinical Research?

What is Clinical Research?

Careful, systematic study and investigation in humans undertaken to discover or establish facts or principles.



(c) 2006, Marianne Dyke, MHA, MSN, ANP

4. Types of Clinical Research

Types of Clinical Research

- Clinical Trials
- Epidemiology
- Translational Research



(c) 2006, Marianne Dyke, MHA, MSN, ANP

5. Types of Clinical Investigations

Types of Clinical Investigations

	Population Oriented	Patient Oriented	Bench Oriented
Kinds of Research	<ul style="list-style-type: none"> • Outcomes (Quality of Life) • Epidemiology 	<ul style="list-style-type: none"> • Clinical Trials • Human Physiology • Pathophysiology 	<ul style="list-style-type: none"> • Animal Physiology • Cell & Molecular Biology
Sample	Databases	People	Animals, Cells
Site	Computer Facility	<ul style="list-style-type: none"> • Clinical Research Centers • Hospitals • Dental Clinics 	Labs

(c) 2006, Marianne Dyke, MHA, MSN, ANP

6. Data Collection in Clinical Research

Data Collection in Clinical Research

- Retrospective—analysis of previously collected data
Example-chart review
- Prospective—collect data moving forward
Example—testing new medicine



(c) 2006, Marianne Dyke, MHA, MSN, ANP

7. Accidental Discoveries in Medicine

Accidental Discoveries in Medicine

- Minoxidil for high blood pressure
- New treatment for baldness!!

(c) 2006, Marianne Dyke, MHA, MSN, ANP⁷

8. Accidental Discoveries in Medicine

Accidental Discoveries in Medicine

- Propranolol for high blood pressure
- New treatment for migraine prevention

(c) 2006, Marianne Dyke, MHA, MSN, ANP⁸

9. The Idea

The Idea

- The most important component of a research project



(c) 2006, Marianne Dyke, MHA, MSN, ANP⁹

10. Good Idea Criteria

Good Idea Criteria

- Timely
- Relevant
- New
- Contributive

(c) 2006, Marianne Dyke, MHA, MSN, ANP¹⁰

11.

Problem Statement

Problem Statement

- A question or statement that clearly identifies the variables under consideration for which an answer is to be described, explained, predicted, and which is possible to test.
- Usually broad at first and gets further defined as the process goes on.

(c) 2006, Marianne Dyke, MHA, MSN, ANP¹¹

12.

Sample Problem Statements

Sample Problem Statements

- What are effective interventions for xerostomia?
- What are the best predictors of patients at high risk for dental caries?

(c) 2006, Marianne Dyke, MHA, MSN, ANP¹²

13. Purpose of Literature Review

Purpose of Literature Review

- To understand the status of existing research in an area
- To provide clues to study methodology and instrumentation

(c) 2006, Marianne Dyke, MHA, MSN, ANP¹³

14. The Data Based Literature

The Data Based Literature: Not all studies are equal

- Randomized controlled trials
- Case control and cohort studies
- Descriptive studies, expert panels, expert opinion

(c) 2006, Marianne Dyke, MHA, MSN, ANP¹⁴

15. Evidence-Based Practice

Evidence-Based Practice

- Uses the current best evidence in making decisions about the care of individual patients.
- Integrates individual clinical expertise with the best available external clinical evidence from systematic research.

(c) 2006, Marianne Dyke, MHA, MSN, ANP¹⁵

16. Evidence-Based Practice Resources

Evidence-Based Practice Resources

- Research articles
- Clinical practice guidelines
- Structured abstracts and evidence summaries—see clinical reference tools (ex. UpToDate)
- Systematic reviews—critically evaluate relevant research

(c) 2006, Marianne Dyke, MHA, MSN, ANP¹⁶

17. Evidence-Based Practice

Evidence-Based Practice

- Management of Dental Patients Who are HIV Positive
- Cardiovascular Effects of Epinephrine on Hypertensive Dental Patients
- Diagnosis and Management of Dental Caries

(c) 2006, Marianne Dyke, MHA, MSN, ANP¹⁷

18. Applying Evidence-Based Methods

Applying Evidence-Based Methods

- Start with a clear, relevant question
- Questions arise from daily encounters with patients
- Focus question

(c) 2006, Marianne Dyke, MHA, MSN, ANP¹⁸

19.

Focusing the Question

Focusing the Question

- Identify patient or population
- Identify problem or condition
- Exposure to test, risk factor, intervention
- Comparison test or intervention
- Specific outcome

(c) 2006, Marianne Dyke, MHA, MSN, ANP¹⁹

20.

Dental Implications of Bisphosphonates for Osteoporosis

Dental Implications of Bisphosphonates for Osteoporosis

- Identify patient or population: **Adults**
- Identify problem or condition: **Osteoporosis**

(c) 2006, Marianne Dyke, MHA, MSN, ANP²⁰

21. Dental Implications of Bisphosphonates for Osteoporosis

Dental Implications of Bisphosphonates for Osteoporosis

- Exposure to test, risk factor, intervention:
Bisphosphonates
 - Comparison test or intervention:
No Bisphosphonates
 - Specific outcome: Delayed healing,
Osteonecrosis, No adverse events
-

(c) 2006, Marianne Dyke, MHA, MSN, ANP²¹

22. To the Literature……..

To the Literature.....

Article Review



(c) 2006, Marianne Dyke, MHA, MSN, ANP²²