

An aerial photograph of a tropical ocean scene. The water transitions from a deep blue at the horizon to a vibrant turquoise in the foreground. White, frothy waves are visible, breaking in several places. The sky is a clear, deep blue, dotted with scattered white clouds. The overall atmosphere is serene and majestic.

In the name of lofty unique

Research Methodology

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- The systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions



**RESEARCH
PROPOSAL**

Classification:

- Basic
 - Applied
- Based on the result

- Descriptive
 - Analytic
 - Experimental
- Based on the objective

for writing
research

Proposals

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- Topic
 - Title
 - Problem statement
 - Literature review
 - Objectives
 - Methodology
 - References

Topic

- Priority
- Duplicate
- Applicability
- Ethical
- Researcher interest
- Political Acceptance

FINER

- Feasible
- Interesting to the investigator
- Novel
- Ethical
- Relevant

Title

- limited research scope
- Emphasize method
- Question ??? xx
- Concise
- Prejudice

Title

- Importance
- First
- Might be judge
- Contain general objective
- Exactly present what you want to do

Title

4 W

- What?
- Where?
- When?
- Who/To whom?

Title

- SHORT words
- FAMILIAR words
- SPECIFIC words

Title selection (principles)

- Problem Oriented Research
- A problem situation
- Relationship of parameter to a problem
- Impact of one or more interventions on a problem
- Diagnose a problem

Problem statement

- Elucidate
- Description
- Field
- Why ???

Problem statement

- What's the problem
- Importance
- First (time, person, place)
- Recent data

Problem statement

- Method
- Limitation
- Research gap
- aims

Problem statement

- Blind spot
- 1000 words xx
- Facts
- Acronym

Literature review

- Prejudice
- Don't limit

Objectives

- GENERAL OBJECTIVES

Title

- SPECIFIC OBJECTIVES



SPECIFIC OBJECTIVES

- Broader scope
- Variables, time, samples

Objectives (key words)

- Define
- compare
- describe

Benefices

- Focus
- Unnecessary data
- Organize
- Writing order
- Study evaluation

Hypothesis

- Simple
- Understandable
- Accurate
- Testable
- Fact

Category

- H_0 (Null hypotheses)
- H_1 (Alternative hypotheses)

H1 (Alternative hypotheses)

- One domains (Increase, Decrease)
- Two domains (relationship)
- Curcumin – stress oxidative (example)

Practical Problem

- Garlic & hyperlipidemia

General objective?

Specific objective?

Hypothesis?

H_0 (Null hypotheses) & H_1 (Alternative hypotheses)

Variables

- Independent
- Dependent
- Confounding
- Back ground

Category

- Numerical

Continuous

Distinct

- Categorical

Scale

- Nominal

Gender

- Ordinal

Literacy

- Interval

Temperature

- Relative

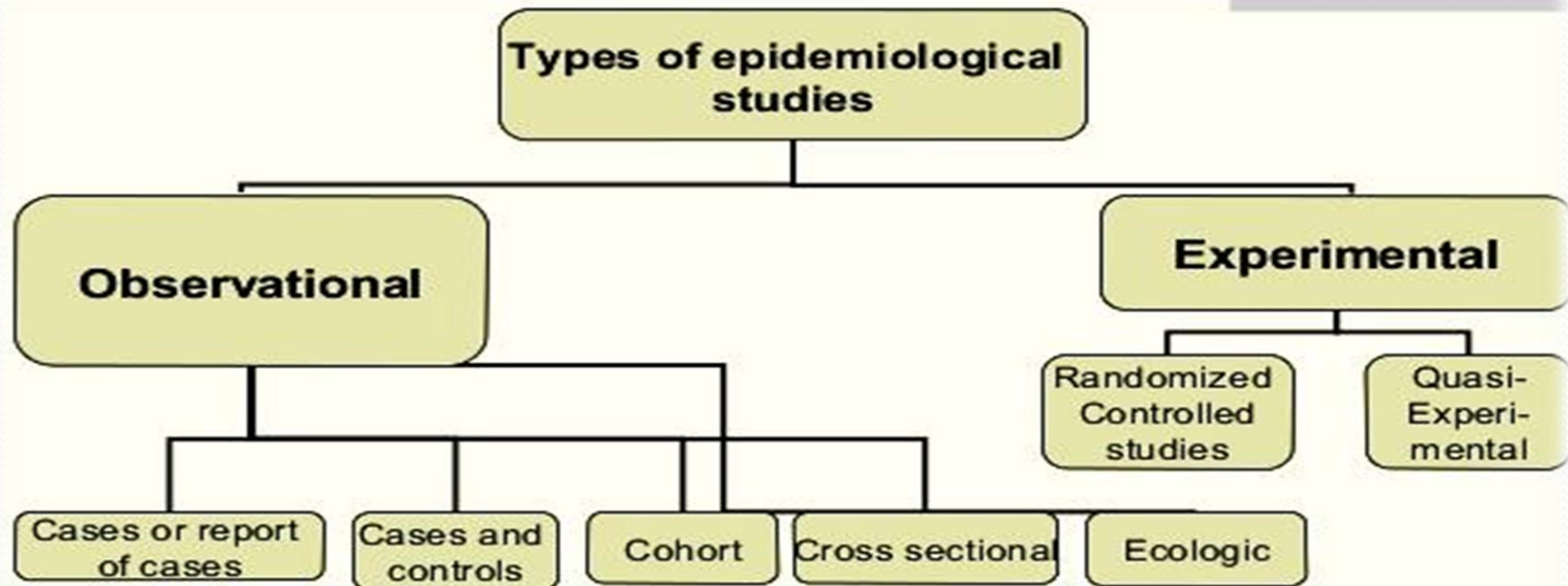
Hemoglobin conc.

Good scale properties

- Scientific
- Comprehensive
- Enough category
- Uncollectible

Types of studies

Types of studies



Observational Study

- Descriptive
- Analytic

Descriptive

- Case-report
- Cross- Sectional
- Ecological Studies

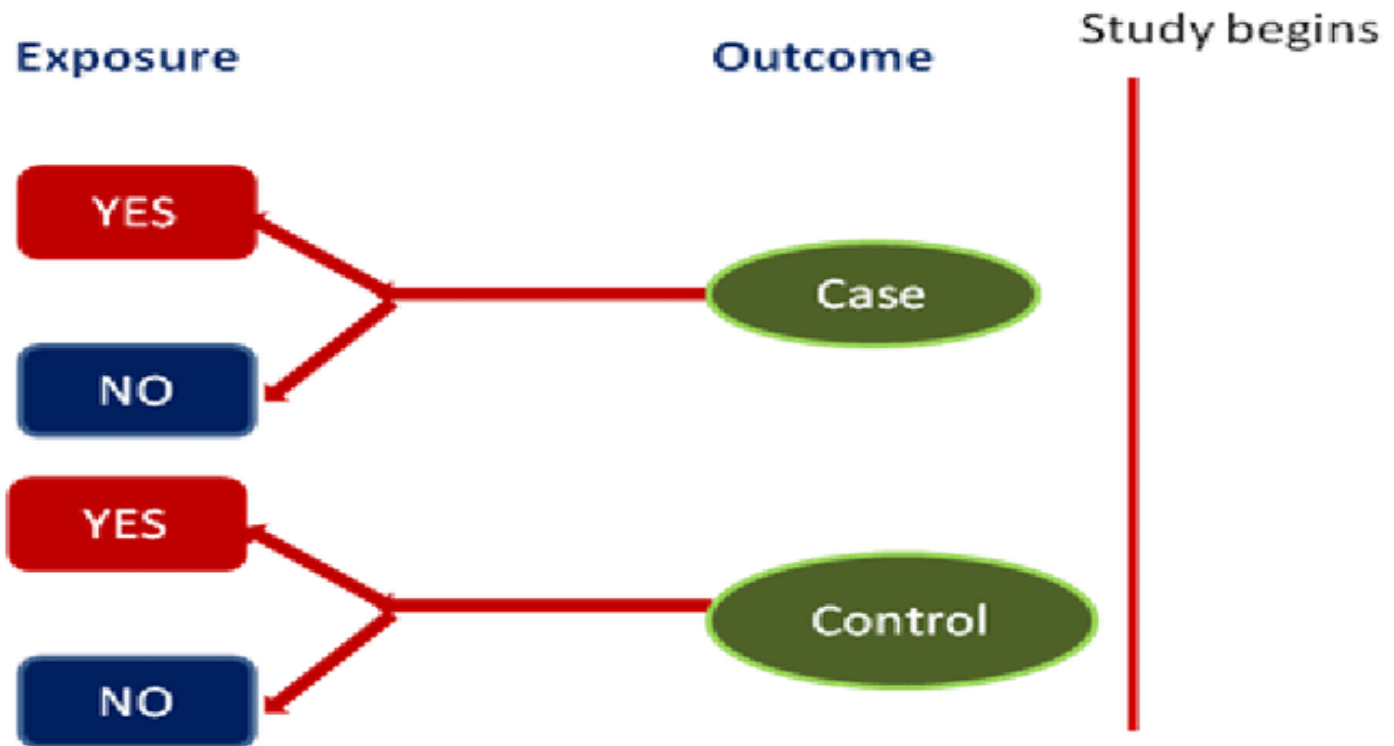
Analytic

- Retrospective
- Prospective

Studies

- Case-control
- Cohort study

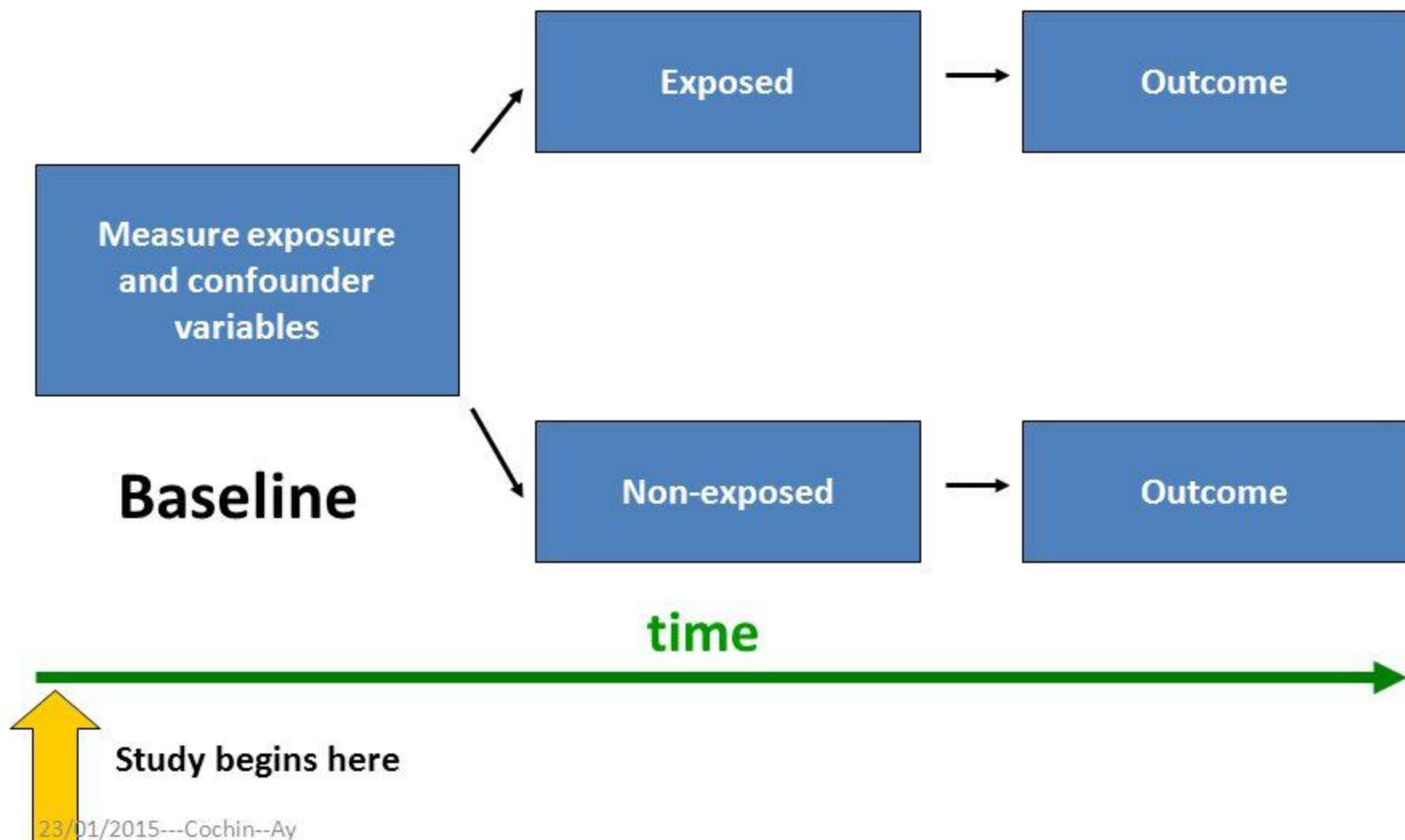
Case-control



Backward direction: from outcome to exposure

Backward timing: study begins after outcome

Cohort study



**Case control
study**

**Effect
(Outcome)** → **Cause
(Exposure)**

**Retrospective
cohort study**

**Cause
(Exposure)** → **Effect
(Outcome)**

Experimental Study

- Lab Trial
- Clinical Trials
- Field Trials
- Community Trials

Main Important Referencing Styles

1. Author-Date Style
(Harvard Style)
2. Numeric Style
(Vancouver Style)