روش تحقیق مقدماتی

انواع کلی مطالعه

- توصیفی

- تحلیلی

اهداف مطالعه

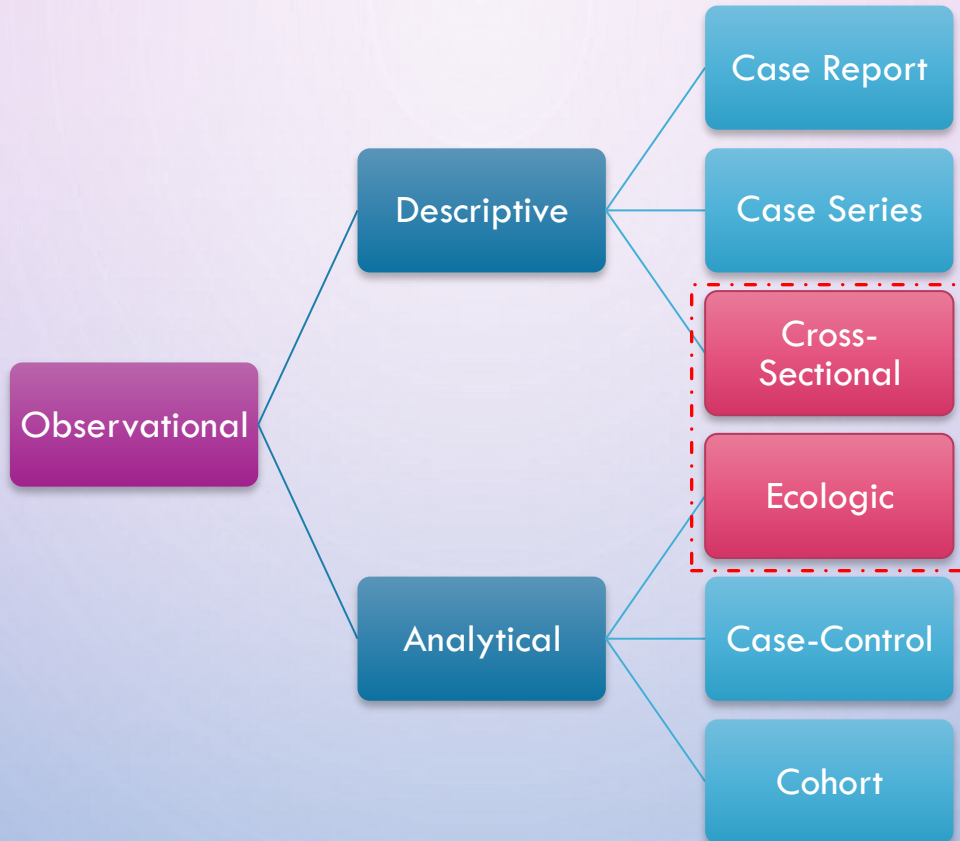- تعیین وضعیت توزیع صفات کمی و کیفی در جوامع در زمان مشخص

- تعیین روابط بین صفات و نوع این روابط

مطالعات توصیفی

- کمی (تمرکز بر زمان و مکان و شخص)

انواع مطالعات تحلیلی

- مشاهده‌ای
- مداخله‌ای

Case Reports and Case Series

- Describe the occurrence of new disease entities.

- Describe the outcome of patients with specific diseases.

- Allows for the description of outcomes associated with rare diseases.

- Formulate hypotheses

Limitations of Case Report & Case Series

- Impossible to determine disease frequency.

- Cannot establish causality between exposures or risk factors and disease or outcome.

CROSS-SECTIONAL STUDIES

Cross Sectional Studies

Disease Status

	Yes	No	Total
Exposure Status — Yes	a	b	a +b
No	c	d	c +d
	a +c	b +d	N

Cross-sectional studies

- Cross-Sectional Studies measure existing disease and current exposure levels.

- They provide some indication of the relationship between the disease and exposure or non-exposure

- Mostly prevalence studies/surveys

Cross Sectional Studies
(Advantages)

• Good design for hypothesis generation

• Can estimate exposure proportions in the population

• Can study multiple exposures or multiple outcomes

• Relatively easy, quick and inexpensive

• Best suited to study permanent factors (breed, sex, blood-type)
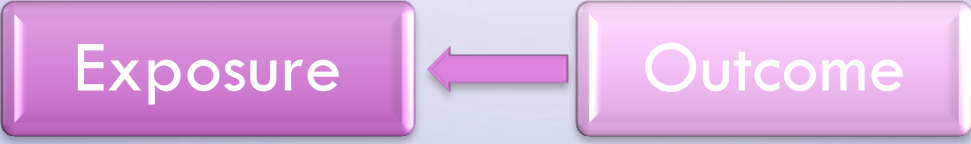
• Often good first step for new study issue
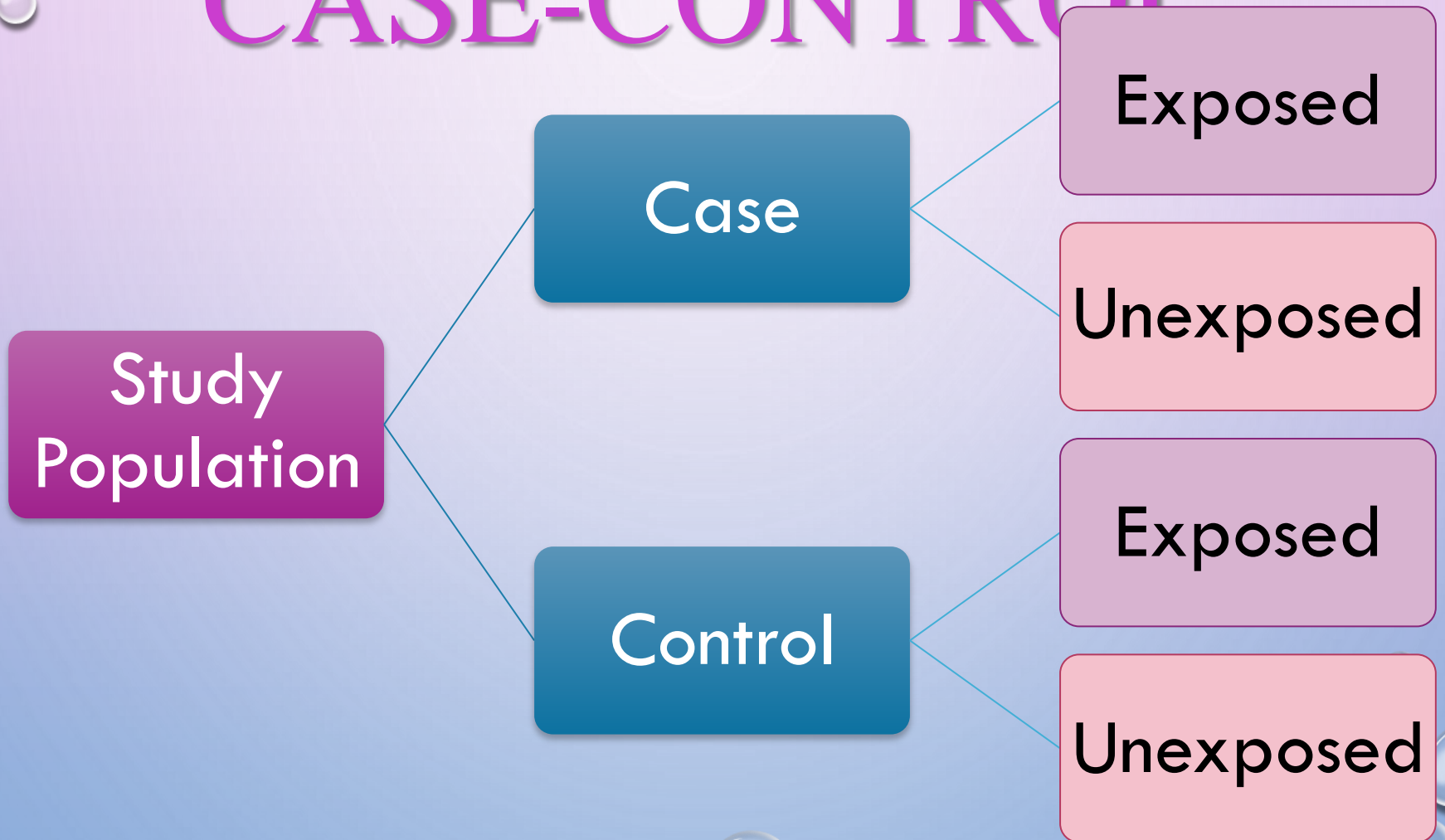
Cross Sectional Studies
(Disadvantages)

- Impractical for rare diseases

- Problems with temporal sequence of data

- Not a useful type of study for establishing causal relationships

- Confounding is difficult to control

- hard to decide when disease was actually acquired

- miss diseases still in latent period

- recall of previous exposure may be faulty

CASE-CONTROL STUDIES

CASE-CONTROL

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                                   ┌──────────────┐
                              ┌────►│   Exposed    │
              ┌──────────┐    │     └──────────────┘
              │   Case   │────┤
              └──────────┘    │     ┌──────────────┐
                   │          └────►│  Unexposed   │
┌────────────┐     │                └──────────────┘
│   Study    │─────┤
│ Population │     │                ┌──────────────┐
└────────────┘     │          ┌────►│   Exposed    │
                   │          │     └──────────────┘
              ┌──────────┐    │
              │ Control  │────┤
              └──────────┘    │     ┌──────────────┐
                              └────►│  Unexposed   │
                                    └──────────────┘
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Case-Control stydies

Disease Status

		Yes	No	Total
Exposure Status	Yes	a	b	a +b
	No	c	d	c +d
		n1	n2	N

STEPS

- HYPOTHESIS DEFINITION

- SELECTION OF CASES AND CONTROLS

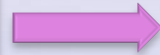- EXPOSURE MEASUREMENT

- ANALYSIS & INTERPRETATION

SPECIAL FEATURES OF CASE CONTROL STUDY

- STUDYING DISEASES WITH LONG LATENCY

- EFFICIENT IN TIME AND COST

- SUITABLE FOR RARE DISEASES

- WIDE RANGE OF POTENTIAL EXPOSURE

COHORT STUDIES

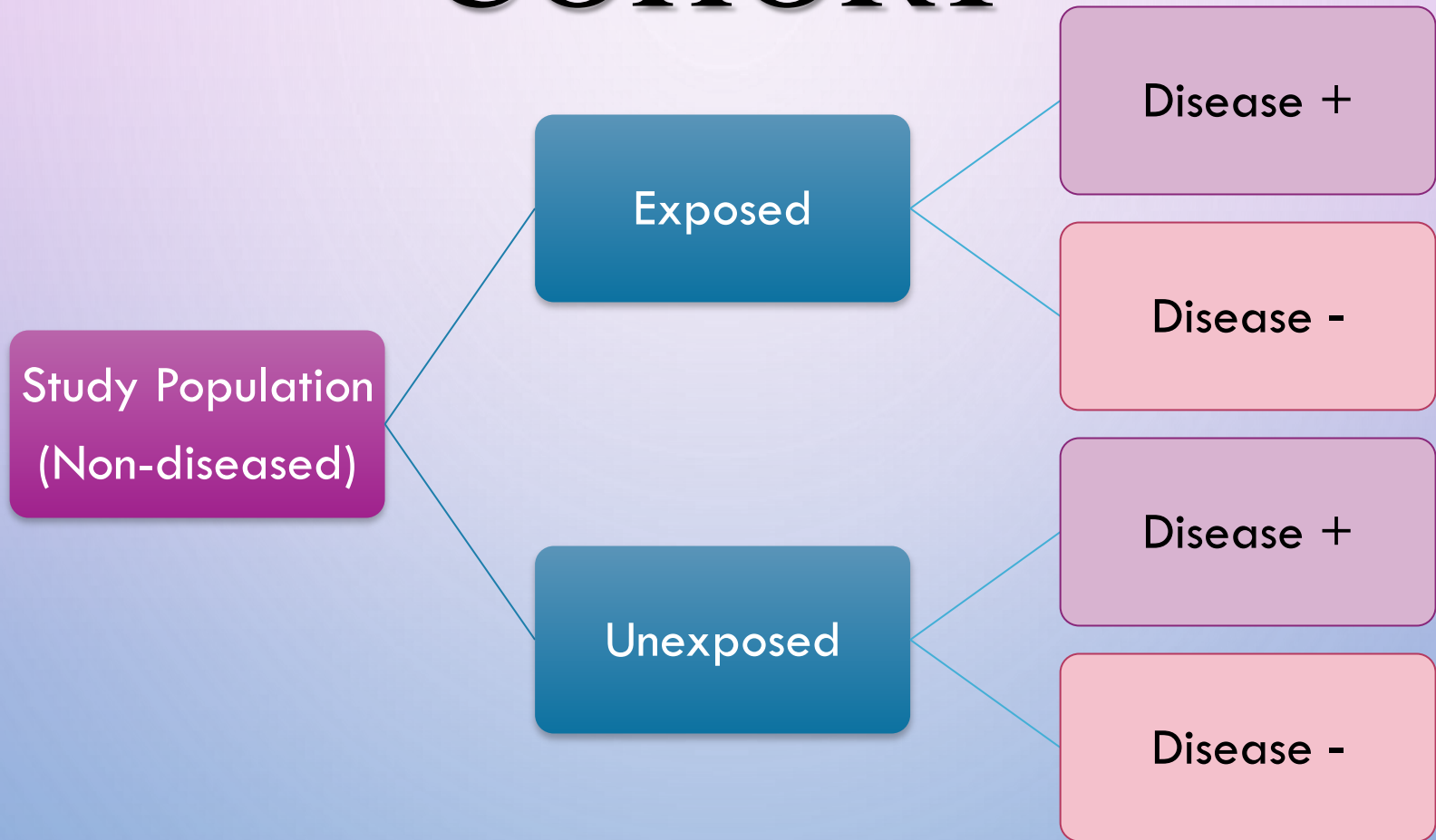# Cohort studies

Disease Status

|	Yes	No	Total
Yes	a	b	n1
No	c	d	n2
	a +c	b +d	N

Exposure Status

COHORT

STEPS

- HYPOTHESIS DEFINITION

- SELECTION OF EXPOSED AND UNEXPOSED

- FOLLOW-UP AND OUTCOME MEASUREMENT

- ANALYSIS & INTERPRETATION

Selection of the Exposed Population

- Sample of the general population:
    Geographically area, special age groups, birth cohorts

- A group that is easy to identify:
    Nurses health study

- Special population (often occupational epidemiology):
   Rare and special exposure
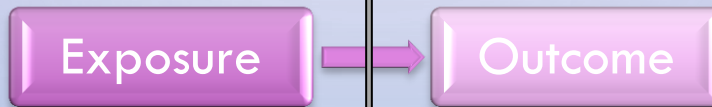
Comparing cohort and case control

	Case control	**cohort**
Study group	Diseased/ healthy	Exposed/ unexposed
temporality	Hard to establish	Easy to establish
multiple	exposures	outcomes
time	short	Long
cost	inexpensive	Expensive
Best when	D rare E frequent	E rare D frequent
Problems	Control selection Exposure information	Unexposed selection change over time
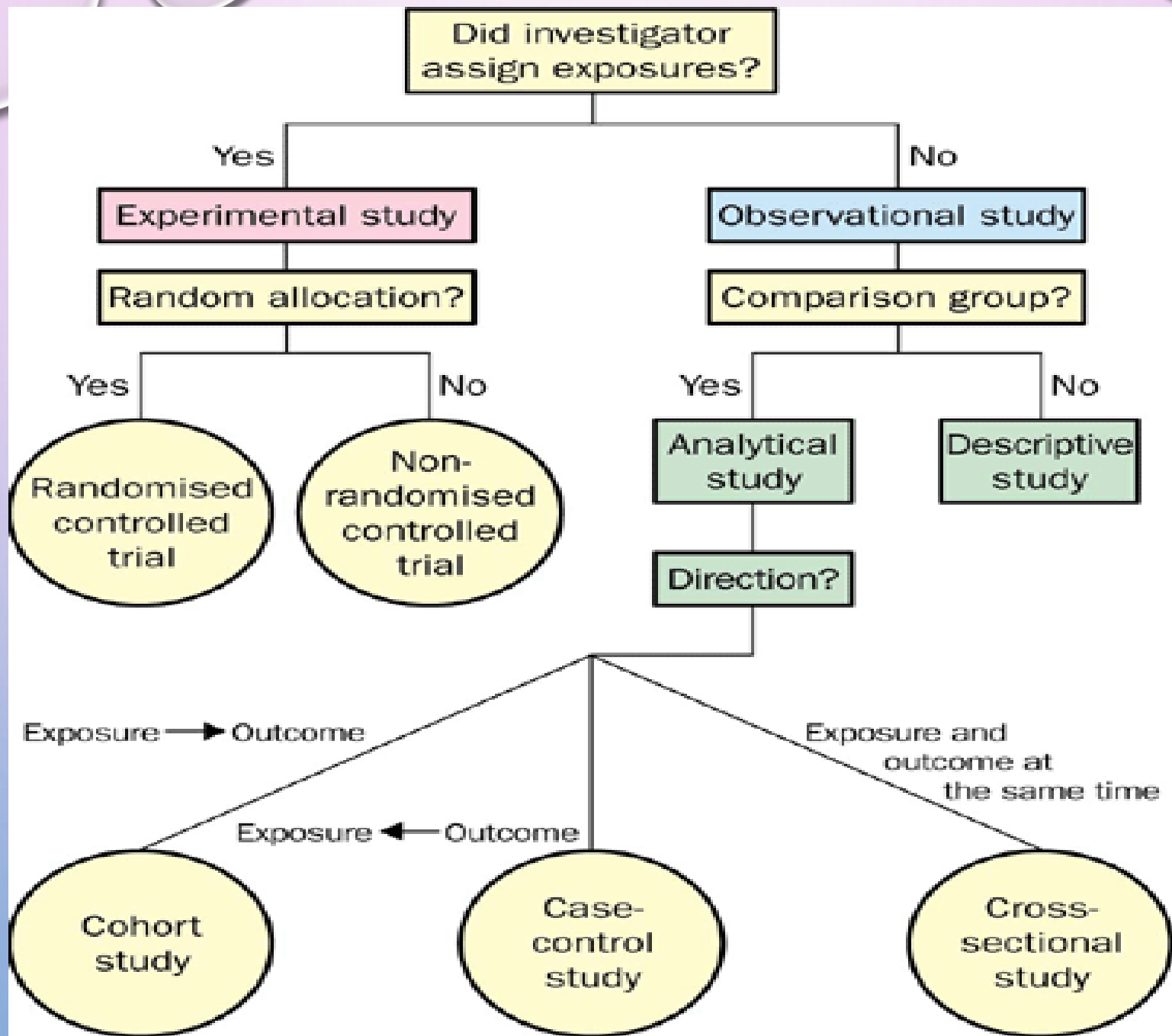
The Hierarchy of Evidence

1. Systematic reviews & meta-analyses

2. Randomised controlled trials

3. Cohort studies

4. Case-control studies

5. Cross sectional surveys

6. Case reports

7. Expert opinion

8. Anecdotal