

What Can a Study Actually Tell Us?

Different scientific questions require different ways of finding an answer.
There is no single “best” study design for everything.

Better questions today. Healthier choices tomorrow.

WHAT DO WE WANT TO FIND OUT?

WHICH STUDY DESIGN CAN HELP?



Is there an association?

Is a certain factor (e.g. diet, lifestyle, genetic variant) linked with a particular outcome?



Observational studies

(e.g. cross-sectional, case-control, cohort)
Can identify associations between factors and outcomes. Association does not prove causation.



Does an intervention cause a change?

Does a change (e.g. dietary pattern, supplement, behaviour) lead to a difference in the outcome?



Randomised controlled trials (RCTs)

Can provide strong evidence for a causal effect of an intervention when the question and ethical considerations allow randomisation.



What happens over time?

How is an exposure or characteristic related to a future risk or the development of a condition?



Prospective cohort studies

Follow a group of people over time to assess how exposures are related to later outcomes. Can show temporal sequence but remain observational.



How well does a test work?

Can a test (e.g. genetic, biomarker, imaging) accurately identify a condition?



Diagnostic accuracy studies

Evaluate how well a test identifies a condition, usually by comparing it with an appropriate reference standard.



What do all the available studies show together?

What is the overall evidence from all relevant studies on a given topic?



Systematic review and meta-analysis

A systematic review identifies, critically appraises and synthesises relevant studies. When statistical pooling is appropriate, it may include a meta-analysis.



**The study design helps determine which questions the study can address.
It does not guarantee the quality of the answer.**

Before accepting the conclusion, check:

- ☐ How was the study conducted?
- ☐ Is there a risk of bias?
- ☐ How precise is the result?
- ☐ To whom and under what conditions does it apply?
- ☐ Does it align with the wider body of evidence?

Don't just look for the “strongest” study design. Look for the design that fits the question – and check how reliably the study was conducted.

Science for a healthier tomorrow.

