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Week 1- Introduction to health research

What is research?

We use research to:

- Acquire or gain knowledge
- Add to what is already known
- Increase understanding
- Answer a question or resolve a problem

Formal vs Informal research

Informal- conducted on a daily basis subconsciously. May include questions such as:

→ which movie to watch, which car is most reliable, what uni course to apply for.

Formal research- is a more structured process, also known as 'scientific research'

→ involves a systematic process
→ gathering and analysing information
→ generating knowledge

Scientific research must be:

1. **Logical:** approach or process being used to make logical sense, and actions/steps are based on clear or sound reasoning
    - *Example*: researching patient experience in a maternity unit. Logical reasoning may be: observation in hospital followed by patient interviews

2. **Understandable-** it is important to ensure people understand the research process you're using
    - The research process must make sense, be precise, be credible and be clear
    - *Note:* if others cannot understand your research process then they cant replicate it or confirm results

3. **Confirmable-** research studies must be repeatable so we can confirm their findings
    - If processed are clearly documented and there are clear steps to follow others should be able to come up with the same results as you did
    - *Note:* Baking a cake is very similar to the research process. We need a clear recipe with specific measurements and instructions to follow to get the perfect cake every time

4. **Useful-** research should generate, verify or test theory and knowledge for use in practice, results should be generalizable

- Research must inform or potentially improve practice to be useful

The role of research in healthcare

- → We need to be able to sift through this conflicting health information as consumers so we make informed decisions
- → Good quality research is central to healthcare and it is imperative that health practitioners have the skills to navigate their way to the findings of credible studies
- → Research may focus on individuals or population groups. Health research can also involve examining the social, biological, environmental or behavioural determinants and how they impact health status.

Examples of areas of focus when conducting research include:

- Patterns of disease or illness
- Causes of disease or illness
- Diagnosis
- Prevention of disease
- Promotion of disease

Carrying out good quality health research develops knowledge about:

- Best care practices for individuals
- Best approaches for dealing with disabilities or dysfunctions
- How to respond effectively to potential health problems

Decision making for health professionals

The research process

The first step is defining the research question or hypothesis.

Research question- the aim will be endeavour to answer that question

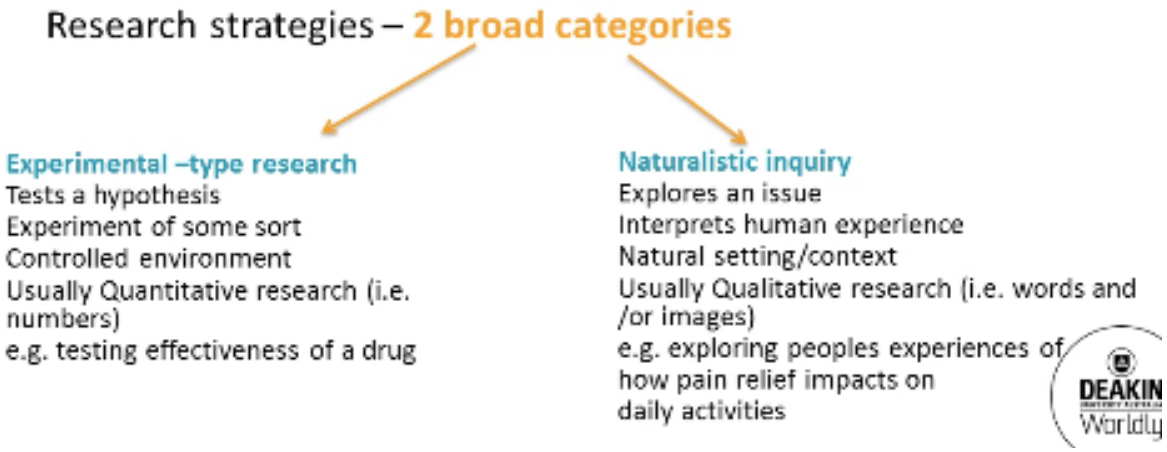
- Eg. Are children who receive lollies as rewards from their parents more likely to develop unhealthy eating habits in adult life?
- Often examine relationships a connection or association between particular factors or variables
- Eg. relationship between physical activity and weight
- Sometimes research involves examining or measuring something which is not physical, this is known as a construct, eg. patient satisfaction

Characteristics of a good research question

→ Feasible, clear, significant, it must be possible to collect some type of information in an attempt to answer the question

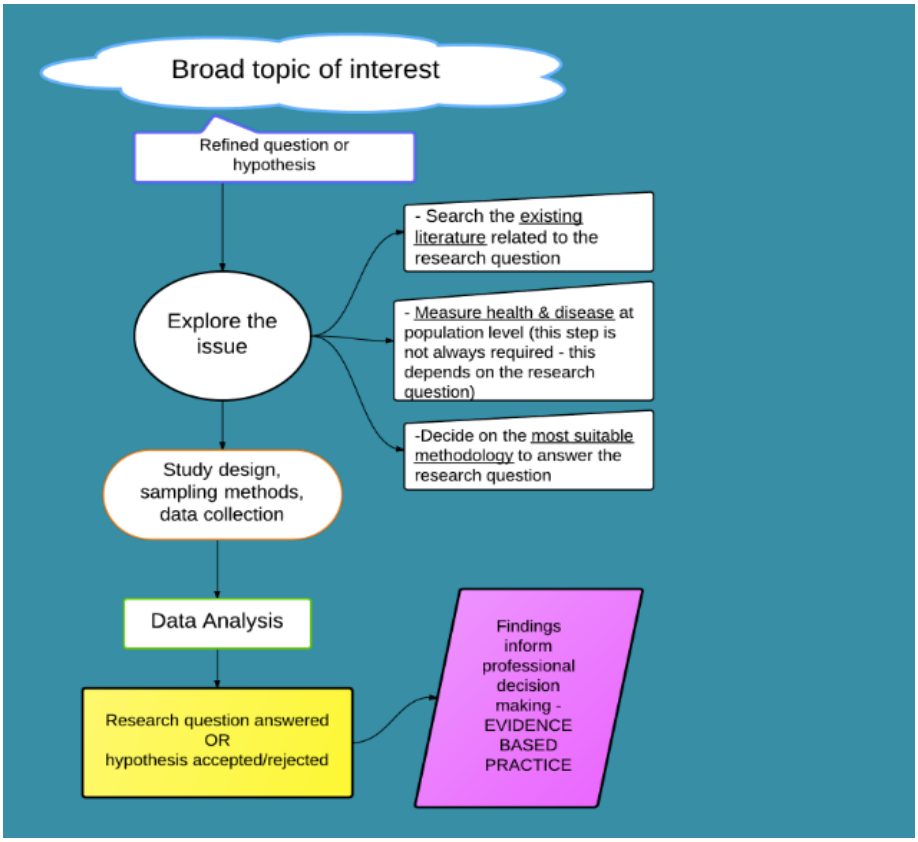
Answering the research question

Research questions vary widely, so do the strategies to answer them.



Hypothesis- aim of the research is to test this statement and test if its true (confirm or refuse)

Eg. Children who receive lollies as rewards from their parents are more likely to develop unhealthy eating habits in adult life



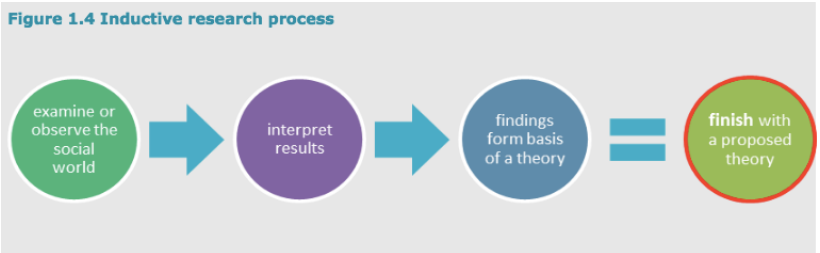
Inductive vs deductive research approach

Health research can be categorised as adopting an inductive or deductive research approach

- → Sometimes more than one approach is used
- → For example, a researcher may use an inductive approach initially in order to develop a proposed theory. This proposed theory which emerges from the inductive approach could then be tested using the deductive approach to check if the theory holds true (or not!).

Inductive research approach

Begins by examining the social world (often using qualitative methods). A theory is then developed on the basis of what is found in the social world, i.e. the theory is the outcome of the research.



Deductive research approach

Common in health research. Using a deductive research approach means the researcher begins with a proposed theory and from this theory develops his/her hypothesis. The hypothesis is then tested (usually quantitative methods), i.e. the theory guides the research

Figure 1.3 Deductive research process

Quantitative vs qualitative research

Quantitative- involves collection and analysis of numerical data

- → Quantifies and measures; e.g. how many, how often, what percentage, what proportion.
- → Examines associations or relationships between variables.
- → Uses statistical techniques to establish/describe patterns or relationships in the data.
- → Often uses a deductive approach

Example: how many people currently smoke in Victoria?