

RESEARCH QUESTIONS AND RESEARCH OBJECTIVES

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Khoo EM. Research questions and research objectives. The Family Physician 2005;13(3):25-26

Primary care research is best done in primary care settings. Its aim is to improve the quality of primary care and provide better care for the patients. The scope of research ranges from basic research to develop research methods in the discipline, clinical research to inform clinical practice, health services research to improve health service delivery, health systems research to improve health systems and policies, and educational research to improve education for primary care clinicians.¹

Define research questions

Identifying research question and refining it is of paramount importance in any research undertakings. As Howie suggested, "To find the right question requires that we understand what we are asking about, and know to keep the question simple enough to be answerable, but challenging enough to be interesting."²

What constitutes a good research question?

A question well-stated is a question half-answered.³ The formulation of a question is often more important than its solution. A good question will have a few characteristics (Box 1). It often relates to the experiences that are fresh in mind of the person asking them and one that interests them. It should not be too broad or too narrow.

Box 1^{2,4}

A good research question:

The question is important and relevant.
It is interesting to the researchers and others
It is simple
It is feasible, *i.e.* answerable within a set timeframe
It is clear and succinct
It is original, setting out to discover something new
The answer will be of benefit and has implication to clinical practice or advancement in science

When generating a research question, we need to ask what it is that we are studying and plan how it will be studied. We have to postulate what are the possible expected outcomes of the study and whether the information needed for the study will be realistically accessed. We will also need to ask if the expected outcomes are going to be useful in terms of finding new knowledge or clinically applicable. If the answer is yes to all, the research question is set. Subsequently we can conduct a literature review to refine the question and set the objectives.

Conducting a literature review will allow us to explore the extent to which the question has been researched into and help us refine and focus our question. If the question has been answered before but has scanty evidence, we can still look into it to further substantiate or disprove the existing findings. If the question has been extensively researched, then we should look at other questions as the question has been answered.

To illustrate the process of refining a question, one may start off with a research question such as, "What is the current status of the management of upper respiratory tract infection in Malaysia?" This is a common and important condition seen in primary care, but the question is too general. We need to narrow the scope as to which aspect we want to know about the management of upper respiratory tract infection. For example, we may focus the question and ask, "What is the antibiotic prescribing rate for upper respiratory tract infection in my practice?" This is a good question but it is too narrow and may not be relevant to other practitioners. So we can then refine again and ask 'What is the antibiotic prescribing rate for upper respiratory tract infection in Malaysian general practice?' and so on. We can continue with this refining process until we are satisfied that the criteria of a good question are met and the question has been well evaluated.

Setting research objectives

The next step that we need to do is to formulate research objectives. (Examples of research objectives are given in Box 2.) The objectives should be specific and reflect the question that we are asking. Different research questions and objectives will require different methodology.⁵ We need to think ahead and plan what

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is the possible methodology that is needed with each research objective that is achievable in the set timeline. Often, we are over ambitious and set too many objectives for a single piece of research. This is usually not advisable, as we will not want to initiate a piece of research that cannot be accomplished within a set time frame. It will dampen our mood for research and this holds true especially to the novice researchers. We will need to take into consideration resource constraints too. Setting too many objectives will diversify our attention as to which is the important question that we really want to answer. Often we feel that we want 'to kill many birds with a stone'. However, the simpler one's research question, the better it is as this will often snowball into many research questions in line.

Box 2.

References:

Research question:

What is the antibiotic prescribing rate for upper respiratory tract infection (URTI) in Malaysian general practice?

Examples of research objectives:

To determine the antibiotic prescribing rate for URTI in Malaysian general practice.

To examine factors influencing antibiotic prescribing for URTI in these practices.

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