



# INTRODUCTION TO CLINICAL RESEARCH

Mona nafea MD



# The goal of scientific research

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build scientific  
knowledge.

knowledge may  
be imperfect or  
even quite far  
from the truth.

# Introduction

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The basic principles of the research is to build knowledge or to improve and update in every part in our life



# Today Brainstorm

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The pearl of designing a good research



Significance of good research question



Characteristics of the ideal research question

# Brainstorm

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Research usually begin  
with the research question



To formulate your question



You should maintain  
certain steps

# The ideal research question

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Focused

Novel

Researchable

Interesting

Feasible

ethical

Specific

Relevant

# TYPES OF RESEARCH QUESTION

- 1- Quantitative
- 2- Qualitative



The following table illustrates the differences between quantitative and qualitative research questions.


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# Quantitative versus qualitative research

Quantitative Research Problem	Qualitative Research Problem
<ul style="list-style-type: none"><li>• Explains or predicts the connections, relations or comparisons between variables</li><li>• Contains independent <i>and</i> dependent variables</li><li>• Measures variables for getting quantified data</li><li>• Tests theories or broad explanations</li><li>• generalizes results to a large number of people</li></ul>	<ul style="list-style-type: none"><li>• Explores, understands, describes, generates, discovers phenomenon</li><li>• Learn and describe individuals' views</li><li>• Assess a process over time</li><li>• Generate theories based on participants' views</li><li>• The results cannot be generalized</li></ul>



# Quantitative research questions

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Quantitative research questions usually seek to understand particular social, familial, or educational experiences or processes that occur in a particular context and/or location (Marshall & Rossman, 2011).

They can be further categorized into three types: ■  
descriptive,  
comparative,  
and relationship.



# Features of Quantitative research questions

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**Precise.**

**population based**

**Dependent and independent variables, and the research design to be used.**

**They are usually framed and finalized at the start of the study (Berger, 2015).**

# Features of Quantitative research questions

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establish a link between the research question and the research design.

Moreover,  
these questions are not answerable with “yes” or “no” responses. As a result, quantitative research questions don’t use words such as “is,” “are,” “do,” or “does.”



# Qualitative research questions

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. Unlike their quantitative counterparts, though, qualitative research questions are usually adaptable, non-directional, and more flexible (Creswell, 2013). As a result, studies using these questions generally aim to “*discover,*” “*explain,*” or “*explore.*”



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Descriptive research questions attempt to describe a phenomenon.

Emancipatory research questions aim to produce knowledge that allows for engagement in social action, especially for the benefit of disadvantaged people.

Evaluative research questions assess the effectiveness of existing methods or paradigms.

Explanatory research questions seek to expound on a phenomenon or examine reasons for and associations between what exists.

Exploratory research questions investigate little-known areas of a particular topic.

Generative research questions aim to provide new ideas for the development of theories and actions.

Ideological research questions are used in research that aims to advance specific ideologies of a position.



## **5. Construct your research question properly.**

Research questions should be structured properly to ensure clarity.

There are several frameworks that you can use for properly constructing a research question. The two most used frameworks are explained below.

## **PICOT framework**

The PICOT framework was first introduced in 1995 by Richardson et al. Using the PICOT framework; research questions can be constructed to address important elements of the study, including the population to be studied, the expected outcomes, and the time it takes to achieve the outcome. With these elements, the framework is more commonly used in clinical research and evidence-based studies.

## PICOT

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P – population, patients, or problem

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I – intervention or indicator being studied

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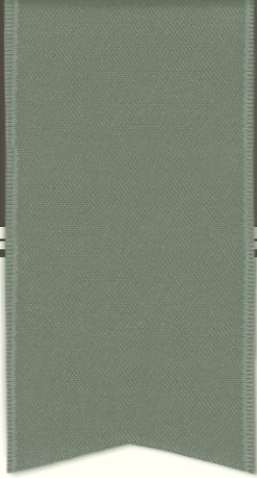
C – comparison group

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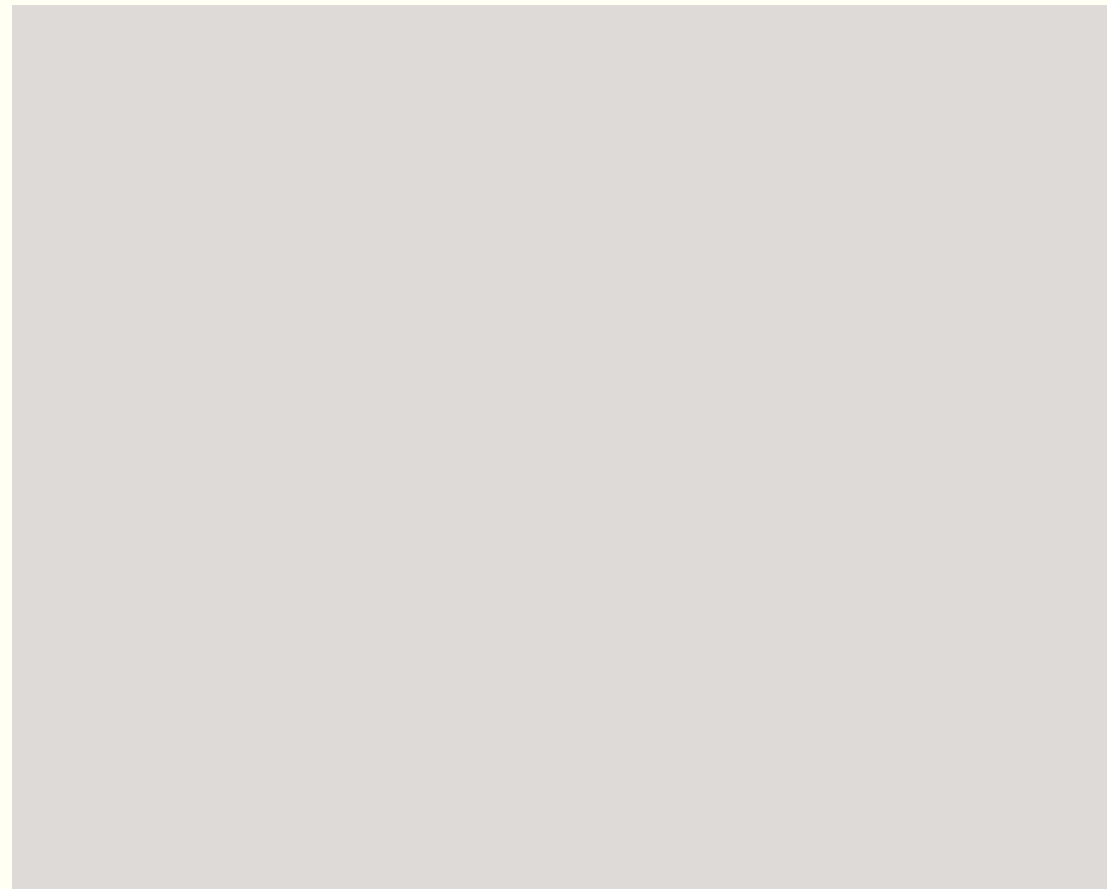
O – outcome of interest

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T – timeframe of the study



# EXAMPLES





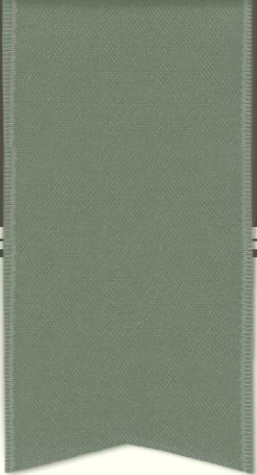


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**A QUALITATIVE STUDY ABOUT THE MENTAL HEALTH  
AND WELLBEING OF OLDER ADULTS IN THE UK  
DURING THE COVID-19 PANDEMIC**



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IMPACT OF THE COVID-19 PANDEMIC  
ON MENTAL HEALTH AND WELL-  
BEING OF COMMUNITIES: AN  
EXPLORATORY QUALITATIVE STUDY  
PROTOCOL





# QUIZ

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Select the best question of all of the following and  
comment on the other

HOW CAN WE IMPROVE THE NUMBER OF GRADUATES IN THE COLLEGE OF  
ADMINISTRATIVE SCIENCE

(TOO LONG NOT FOCUSED NOT SPECIFIC)

# Is the remote or online learning helpful for the student

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Not specific

Yes or no

Non analytic

Wide

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The effect of online learning versus physical on medical student in 5 th year on the intended learning outcome during the covid era

FOR JOINING MY  
IDEAS..FROM  
HEART

