

FROM RESEARCH QUESTIONS TO PRESENTATION

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Outline

- Prior to the conduct of research
- Formulating research questions
- Preparing research proposal
- Analyzing research data
- Making presentation
 - Meeting presentation
 - Publication

Why we do research?

- Wider benefits
 - For the betterment of people's health
 - For the advancement of sciences
- Personal benefits
 - Essential for some institutes
 - Enhances your CV – for job, promotion
 - Enhances your self confidence/esteem
 - To see your work print
 - To have your work reviewed

Do research only if
you really want to!

Basic needs

- **Clinical skills and knowledge**, eg, general psychiatry, psychiatric subspecialties
- **Research methodology, biostatistics, and psychiatric measures**
- **Research interest**, eg, curiosity
- **English** reading and writing skills, as well as listening and speaking (if possible)
- **Computer (\pm typing) skills**, eg, word processor, internet, statistical software
- **Time** to keep yourself up to date

Types of research

- Steps in conducting research:
 - plan (research question and proposal)
 - do (conducting research)
 - check (data analysis), and
 - act (presentation/implementation)
- **Primary or original research:**
 - Do: people, animals, cells, etc
- **Secondary research**, eg, systematic review, meta-analysis, evidence-based guideline
 - Do: other research

Research questions

- Where does a research question come from?
 - Reading: book, journal, etc
 - Listening: meeting, workshop, etc
 - Practice: want to know something not yet known
 - Discussion: conference, informal talk

Research question (cont.)

- Clear and concise
- Parts of a research question: Subjects +
 - Treatment: intervention and outcomes
 - Others: depend on the area and study design
- Avoid too many questions
- Ask a question feasibly to be answered

Research questions (cont.)

- Literature review is a must:
 - What is the gap of knowledge in that area?
 - Has the question been answered?
- Ask yourself first: If you can know the research results, 'So what?'

Research proposal

- Title
- Investigators and qualifications
- Project summary
- Introduction
 - Background Information
 - Justification
 - Expected benefits from the proposed study
- Objectives
- Location and duration of the study

Research proposal (cont.)

■ Workplan

- Population participating in the study: i) selection criteria and ii) exclusion criteria
- Discontinuation criteria
- Implementation and monitoring procedures, including data collection and analysis
- Special considerations

(Key concepts of writing workplan: others can use the workplan for conducting that research project)

Research proposal (cont.)

- Ethical considerations
- Budget summary and source of funding
- References
- Curricula vitae of all researchers

General Ethical Principles

- Respect for persons
 - Autonomy and self-determination
 - Meaningful informed and voluntary consent
- Beneficence
 - Maximizing benefits by promoting the well-being of subjects and society
- Non-maleficence
 - Minimizing harm

General Ethical Principles (cont.)

- Justice

- Persons bearing burden of research should receive appropriate benefits: subjects should not be placed at risk merely because of convenient access, their compromised position, or ability to be manipulated

Human research ethics

- Minimum requirement:
 - Clearly understand the latest version of Helsinki Declaration
 - Obtain ethical approval by responsible ethics committee or institutional review board prior to subject enrolment
 - Receive written informed consent prior to subject participation
- If possible: 'Good Clinical Practice' Training

Data analysis

- Completely plan prior to the design of case record forms
- As far as possible, try collecting
 - Interval data, eg, weight, height, year →
 - Ordinal data, eg, rating scale scores →
 - Nominal data, eg, death/alive, response/nonresponse
- Integrating the skills and knowledge of biostatistics and statistical software

Difficulties in publishing

- WHO Meeting on 'Mental Health Research in Developing Countries: Role of Scientific Journals' in 2003: for researchers from LAMI countries:
 - Limited access to information
 - Lack of advice on research design/statistics
 - Difficulty of writing in a foreign language
 - Material, financial, policy, and infrastructural constraints
 - Limited appreciation of the research

Choosing a journal

1. National or international audience?
2. Language?
3. General or specialty journals?
4. The journal's content area/culture?
5. Exposure opportunities?
6. Chances of acceptance?
7. What about the impact factor?
8. Practical matters (time to publication, etc.)

Journal impact factor

- The average citation frequency for articles published in a journal, or how many times, on average, during the study year the articles that appeared the 2 preceding years of that journal received citations in other (ISI) indexed journals
- Try journal with a higher impact factor first!

Journal impact factor 2004

- Arch Gen Psychiatry: 11.207
- Am J Psychiatry: 7.614
- J Clin Psychiatry: 4.806
- Br J Psychiatry: 4.175
- Acta Psychiatr Scand: 2.288
- Can J Psychiatry: 2.177
- Aust N Z J Psychiatry: 1.386
- J Med Assoc Thai: N/A

Manuscript

What Editors Want

- Quality
- Originality
- Good methods
- A good fit to the journal
- No trouble

Final Decisions Depend On:

- Importance, originality
- Reviewers' concerns
- Fatal flaws
- Journal Philosophy
- Space Available
- Editorial work required

Manuscript: introduction

- Usually can be brought from the Introduction of a well-prepared research proposal
- Indicate at the outset the problem that is addressed - **get the reader interested!**
- Ensure the Introduction summarizes previous work adequately
- Why does it need to be done?
- State the objectives of work or hypotheses to be tested

Manuscript: methods

- Usually can be brought from the Research Methodology of a well-prepared research proposal
- Convince readers the methods are valid
- Study the Methods sections of recent published papers using similar techniques
- The details enough for others to reproduce your work

Manuscript: methods (cont.)

- Recruitment procedures
- Inclusion/exclusion criteria
- Reference previous uses of measuring instruments and techniques
- Don't just say what you did, explain **why** you did it that way
- Specify statistical methods and software used

Manuscript: results

- 1st paragraph for study sample: present everything possibly affect the results
- 2nd paragraph for the results: start with the most important one (stated as the study primary aim)
- Use tables or figures to describe the detailed data
- Use text to emphasize the important data

Manuscript: results (cont.)

- Common problems:
 - Results are mixed with descriptions of methods and conclusions, and are not linked to questions asked
 - The data are not described, just the results of statistical analyses
 - Boring to read because the important findings are left to the end or not emphasized enough

Manuscript: results (cont.)

- Common problems (cont.):
 - Insufficiently graphical presentation (try to make figures understandable without reading the text)
 - Excessive detail in Tables and Figures obscures the message and wastes space (don't duplicate)
 - Failure to deal adequately with confounding variables
 - Failure to control for multiple comparisons

Manuscript: discussion

- Structure of the Discussion section
 - Statement of principle findings
 - Strengths and weakness of the study
 - Strengths and weakness in relation to other studies, discussing particularly any differences in results
 - Meaning of the study: possible mechanisms and implications
 - Unanswered questions and future research

Manuscript: discussion (cont.)

- Common problems:
 - Claims to find something without a directly supporting statistical test
 - Inappropriate conclusions from 'non-significant' associations/differences
 - Does not focus on aims as stated
 - Addresses too many issues or is too long
 - Does not consider alternative interpretations or acknowledge major limitations of the work

Cover letter

- Authorship Statement – Declaration of substantive contribution signed by all authors
- Conflict of Interest Statement – Declaration of real and apparent Conflicts of Interest, in language comprehensible to average reader, signed by all authors
- Redundant Publication Statement – Declaration that the work has not been published previously in whole or in part

Cover letter (cont.)

- Human/animal subjects Statement – Declaration that the study was reviewed by an Ethical Review Committee
- Duplicate submissions - Declaration that the work has not been published, or is not being considered for publication, by another journal

**“Research is to see what
everybody else has seen,
and to think what
nobody else has thought”**

Albert Szent-Gyorgyi (1893-1986)
(Hungarian Biochemist, 1937 Nobel Prize for Medicine)