

Research Critique: purpose & methods

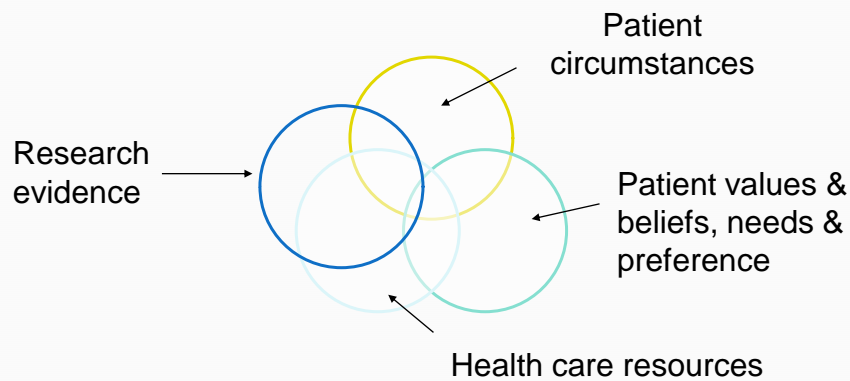
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A model for evidence-based practice



5 step process to EBP

- Information needs from practice are converted into focused structured questions
- The focused questions are used as a basis for literature searching in order to identify relevant external evidence from research
- The research evidence is critically appraised for validity and generalizability
- The best evidence is used alongside clinical expertise and patient's perspective to plan care
- Performance is evaluated through the process of self reflection, audit or peer assessment.

(Flemming 1998)

Critiquing Research Evidence

- Appraising Research Evidence
- Evaluating Research Evidence

Appreciation of the practical issues (clinical problems)

Understanding of potential solutions to the problems

Knowledge of research process

Selected paper

Migrant Nurses' perceptions and attitudes of integration into perioperative setting

Cummins 2009

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Stages of the critique

- Stage 1: Elicit information that will inform you the usefulness of the findings
- Stage 2: Elicit information that will inform you the completeness of the research report
- Stage 3: Elicit information that will inform you the consistency of the research report
- Stage 4: Perform the critique

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Stage 1: Establish the usefulness of the findings

- Step 1: Scan the conclusions and recommendations.
- Step 2: Ask yourself if you can use the findings
- Step 3: If the answer is yes proceed to critically analyze the full report, otherwise discard the paper

1. Are the recommendations specific, practical and realistic
2. Are recommendations simple to use, and does not incur extra costs or time for use
3. Will the local nurses and patients likely to accept the recommendations?
 - How popular will the recommendation be such that it end up as becoming a routine

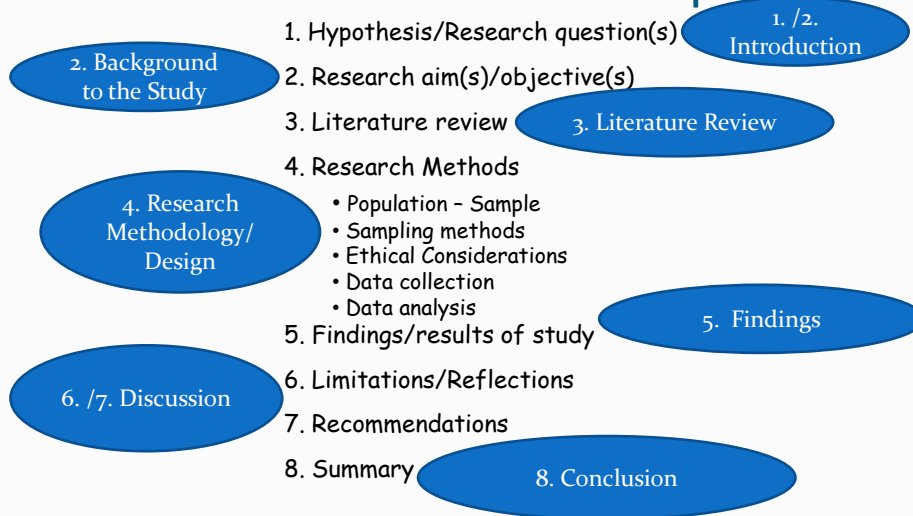
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Stage 2: Elicit information that will inform you the completeness of the research report

- Establish the completeness of the report

Published Research Report



Stage 2: Establish the completeness of the report

- Step 1: Scan the entire paper for key research terms
- Step 2: Ask yourself if you can find these terms in the paper normally presented in this order:
 - (a) research hypothesis (in quantitative research only)/
 - (b) research problem (in both quantitative & qualitative research);
 - (c) objective/ aim;
 - (d) theoretical framework/ methodologies/ theoretical approaches; design;
 - (e) ethical consideration (protection of human rights/ confidentiality/anonymity)
 - (f) sample;
 - (g) data collection;
 - (h) data analysis;
 - (i) findings;
 - (j) Implications & recommendations and/or conclusions.
 - Note:
 - The item e may not be reported because it is expected for all healthcare research and health-related research to obtain ethical clearance from relevant ethical committees. Researchers usually leave this section out for more salient discussions
 - However, you will still need to look at the whole research process to see if ethical consideration was indeed given by the researchers in the entire study

Stage 2: Establish the completeness of the report

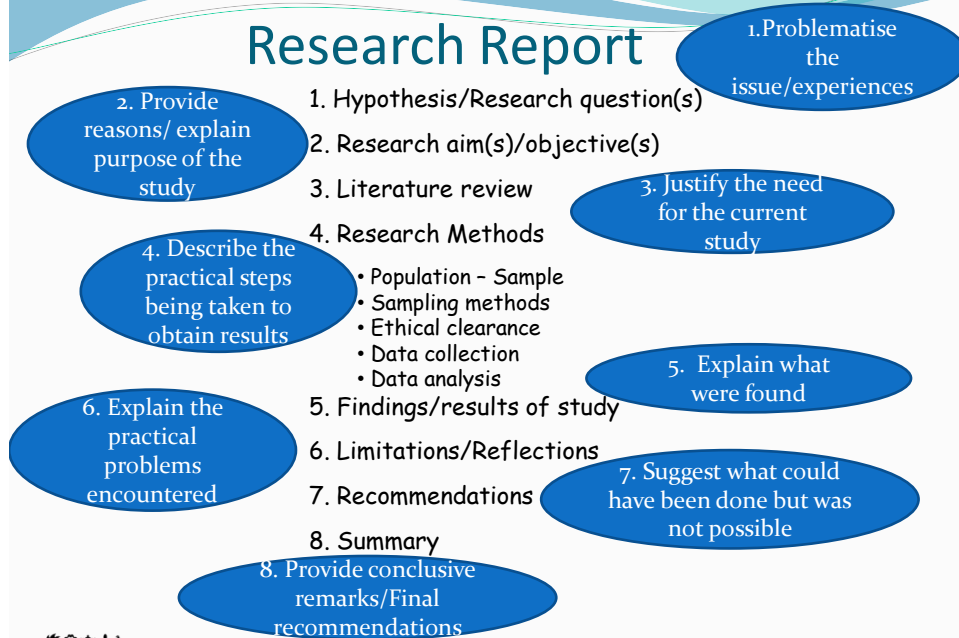
- **Proceed to :**

Read each line of the report, label the content to make a basic outline of the content in accordance of the key research terms. You now at least know if the research report is complete

Stages of the critique

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Research Report



Stage 3: Elicit information that will inform you the consistency of the research report

- Step 1: Re-scan the report to identify if you have missed something in your first scan, or are there gaps in the report
- Step 2: Rescan for the third time to look for a comprehensive, logical progression of the material in the report, similar to the key terms above.

Stages of the critique

- Stage 1: Elicit information that will inform you the usefulness of the findings
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Stage 4: The critique

- This stage comprises a series of steps to address the key research process.
Note:
 - The quality of this stage is influenced by the appraiser's
 1. background knowledge of the research topic in question;
 2. contextual knowledge of the local practice and;
 3. knowledge and skills of research (in relation to the topic area in question).

Sections to be critiqued

1. Hypothesis/Research question(s)
2. Research aim(s)/objective(s)
3. Literature review
4. Research Methods
 - Population - Sample
 - Sampling methods
 - Ethical Considerations
 - Data collection
 - Data analysis
5. Findings/results of study
6. Limitations/Reflections
7. Recommendations
8. Summary

Research
Methodology/ Design

Research
Methods

Ethical
Considerations

Findings

Discussion/Conclusion

Stage 4

- Research Design
- ↓
- Ethical Consideration
- ↓
- Research Methods:
 - Sample
 - Sampling methods
 - Data Collection
 - Data Analysis
- Findings
- ↓
- Implications/Recommendations/Conclusions

Stage 4



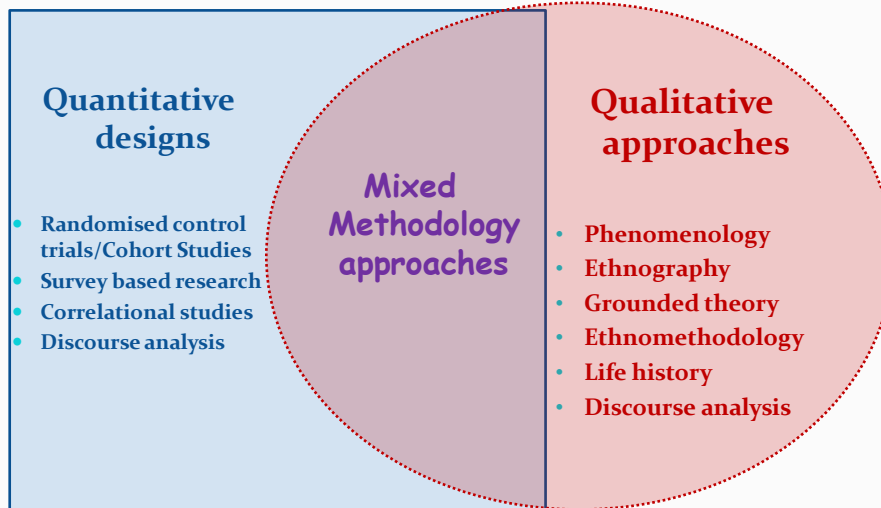
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Research Design

Establish the specific design of the study:

Identify the type of research design being used

Research Designs



Design of the study

- Quantitative
- Non-experimental; Descriptive survey

Abstract, Design, Data Analysis

To examine migrant nurses' perceptions and attitudes of integration into the perioperative setting.

Research Design

Establish the specific design of the study:

Identify the type of research design being used

Demonstrate the ability to answer the following question:
Is the research design a suitable /appropriate design for answering the research question?

To answer the question, you need locate the aim of the study; which is found in the title, abstract and introduction of the paper

Design - appropriateness

Discuss the use of the design in terms of the purpose of the study to establish the appropriateness of the research design

Purpose of study:

“To examine migrant nurses’ perceptions and attitudes of integration into the perioperative nursing ”

Think about the purpose of survey research.

Ethical Considerations

- Locate evidence of ethical clearance

Explain why it is particularly important that ethical approval is obtained for this study?

- Locate evidence of informed consent from participants: i.e. pain free and able

Explain why it is particularly important that informed consent is obtained for this study

- Locate evidence of the researchers managing the participants in an ethical manner in the entire research process

Highlight these evidence

Ethics

- The types of ethical concerns raise.

Discuss the authors' concern, and any concerns you may have which were not mentioned

- The ways that were employed to address the issue.

Evaluate the author's strategy

Research method

- Sample
- Sampling
- Data Collection
- Data Analysis

Research method: Sample

- Step 1: Determine the size of the sample

consider the source for evidence how the sample size has allowed representativeness of the population in question

- Step 2: Determine the nature/characteristics of the sample

Issue of 'non-bias' in selection – in quantitative research

Sample

Discuss how many were selected and who were selected
Discuss how was it selected- to identify the type, and strengths and limitations of sampling method being used.

1. Convenience sample – researcher has no input into deciding which participants

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Inclusion/exclusion criteria

Explain the significance of these criteria - think in terms of the effects they have on the overall research and discuss them.

Inclusion criteria

1. Trained outside Ireland
2. Registered with the Irish Reg body
3. Work in the 4 chosen sites for 6 months or more

Exclusion Criteria

- None mentioned

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Research method

- Sample
- Sampling
- Data Collection
- Data Analysis

Research method: Sampling

- Step 1: Determine the types of sampling

Probability -i.e. Random
sampling
Non-probability

- Step 2: Consider the strengths and limitations of the sampling method – consider this with aim/objective of study

Internal validity

Evaluating surveys: sample adequacy?

- When critically evaluating a survey, it's necessary to discuss the extent to which bias exists within the sample of respondents.
- Bias impacts on the extent to which the sample is representative of the target population
- These are affected by sampling strategy and response rate (and drop out rate if it is a cohort study).

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Research method

- Sample
- Sampling
- Data Collection
- Data Analysis

Research method: Data collection

- Step 1: Determine if the method of data collection is clearly defined based upon the research problem and sample
- Step 2: Determine the types of method use for data collection
Instrument/collector
- Step 3: Determine the time frame of data collection

Data collection

- Collector
- Process of collection

Consider the type of concerns which can be raised here.

Methods of data collection

- 34-item questionnaire constructed based on literature review & current induction and adaptation programmes
- 5 point likert scale
- Opened and closed questions

**Any concerns
for validity of
the tool?**

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Research method

- Sample
- Sampling
- Data Collection
- Data Analysis

Research method: Data analysis

- Step 1: Determine the type of data analysis. Consider if the method of data analysis is consistent with the nature of the data.
 - Quantitative: Statistical analysis - Descriptive Analysis/Inferential Statistics
 - Qualitative: Content analysis/discourse analysis of either transcripts, historical records, personal journals
- Step 2: Determine if the method of data analysis is consistent with the aim of the study.

Findings

- Step 1: Determine what was found in the study
 1. Quantitative studies: Consider the confidence intervals
i.e. $P \leq 0.0005$, $P \geq 0.01$)
 2. Qualitative Studies: Consider the themes that were found
- Step 2: Determine the consistency of what was claimed by the authors and what was actually found. Consider if there was any exaggeration or underestimation of what were found in the study.

Types of analysis/Findings

Descriptive statistical analysis of:

1. Profile of staff
2. Communication – difficulty with colleagues and patients
3. Assertiveness – Lacking (ancillary staff)
4. Delegation – Lacking (ancillary staff)
5. Understanding & being considerate of cultural needs - Lacking

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Types of analysis/Findings

Descriptive statistics –

1. Findings cannot be generalised

**Have you any
concerns?**

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Discussions (implications and recommendations)

- Step 1: Determine if the discussion is consistent with the findings, the research design as a whole and the nature of the sample as data.
- Step 2: Determine the generalisability/applicability of the findings

Author's discussions

highlighted findings and compared with previous studies”

What do you understand by this conclusion? Is this reasonable based on the findings?

Author's recommendations

“Further investigation needed to examine reasons for finding communicating with ancillary staff more challenging”

“ Cultural education for all staff”

“Standardising preceptorship and Induction programme”