NHS004: Introduction to critical appraisal of qualitative research

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Aims

• To increase your confidence in critically appraising qualitative research

• To introduce you to tools and strategies for undertaking critical appraisal

• To evaluate the strengths and weaknesses of a piece of qualitative research as a group
Introductions

• Your name + job
• What brings you to the session today?
• What experience do you have with qualitative research?
Slides + other materials

libguides.kcl.ac.uk/NHS

• Guidance on critical appraisal
• Using the libraries
• Using databases + accessing full-text journal articles
• Accessing clinical resources
• Other training sessions
True or false? Critical appraisal is…

- Tearing research apart: false
- A balanced evaluation of benefits and strengths of the research against its flaws and weaknesses: true
- Assessment of a paper based on its results: false
- A process that can only be undertaken by experts and statisticians: false
What is critical appraisal?

To weigh up the evidence critically to assess ‘its validity (closeness to the truth) and usefulness (clinical applicability)’

Sackett and Haynes (1995)
Why is it important?

• Part of the process of evidence-based practice

• Not all papers are equal: some are good, some are bad, most have strengths and weaknesses

• ‘[some] published articles belong in the bin and should not be used to inform practice’
  
  Greenhalgh (2014)
What is qualitative research?

‘Understanding the complex world of lived experience from the point of view of those who live it’

Jones (1995)

‘Qualitative researchers seek a deeper truth…[qualitative research] begins with an intention to explore a particular area, collects “data”…and generates ideas and hypotheses’

Greenhalgh (2014)
Combining quantitative and qualitative methods

Research can have both qualitative and quantitative components

‘Both methods are valid if applied to appropriate research questions, and they should complement each other’

Bowling (2014), p.143

‘...the view that the two approaches are mutually exclusive has itself become “unscientific”…’

Greenhalgh (2014), p.164
The Qualitytive Street exercise*

- Focus group study on participants’ experience of eating Quality Street chocolates

What made you choose the chocolate you went for?

How would you describe your chocolate?

* Source: Jenny Tancock, former Clinical Librarian at University Hospitals of Morecambe Bay NHS Trust
Questions one might ask

• How was the group recruited? Did anyone choose not to participate?

• What aspects of the study might have affected your participation?

• How were the data collected? How did we know when to stop collecting data?

• How were the data analysed?

• How might we improve the validity of the findings?
• Take 5 minutes to skim read the article again

• What do you think are the strengths and weaknesses of this piece of research?
How do I remember what to look out for?

Use a checklist to help - [https://casp-uk.net/casp-tools-checklists/](https://casp-uk.net/casp-tools-checklists/)
Q1. Was there a clear statement of the aims of the research?

• What was the goal of the research?

• Why was it thought important?

• What is its relevance?
Q2. Is a qualitative methodology appropriate?

• Is the research seeking to interpret or illuminate the actions and/or subjective experiences of research participants?

• Is qualitative research the right methodology for addressing the research goal?
When is qualitative research used?

• to explore real life behaviours and situations

• to explore how different people make sense of something

• to explore issues that are poorly understood or to extend/modify existing theories

More info: Greenhalgh (2014), pp.164-168
Types of question

What? How? Why?

• What is it like to be the mother of an unborn baby?

• How do smokers feel about the various smoking cessation options available?

• Why don’t people take the medicine prescribed to them?
Q3. Was the research design appropriate to address the aims of the research?

- Has the researcher justified the research design (e.g. have they discussed how they decided which method to use)?
Qualitative methodologies

Phenomenology – studies individual ‘lived’ experiences

Ethnography – studies a group’s cultural beliefs and values

Grounded theory – collects data from several sources in order to generate a working hypothesis, leading to the development of a theory

Q4. Was the recruitment strategy appropriate to the aims of the research?

- Has the researcher explained how the participants were selected?

- Why were the participants they selected the most appropriate for this study?

- Is there any discussion around recruitment (e.g. why did some people choose not to take part?)
Sampling

Samples tend to be small

Study should clearly define:

• characteristics of chosen group
• inclusion / exclusion criteria
• recruitment process
• sampling strategies, e.g. convenience, purposive, theoretical

More info: Ulin, Robinson and Tolley (2005), pp.51-58
Sampling strategies

Convenience sampling
• choosing easy to recruit subjects but may not meet the aims of the research and may weaken the quality of the data

Purposive sampling
• choosing subjects to provide rich information on the research question

Theoretical sampling
• beginning with a small sample and then building as researchers develop their theory
Q5. Was the data collected in a way that addressed the research issue?

- Is the research setting justified?
- Is it clear how data were collected?
- Are the methods justified?
- Are the methods explicit?
- Were methods modified during the study? How? Why?
- Is the form of data clear?
- Is data saturation discussed?
Research setting

• Venue should be clearly described
• Appropriate setting lessens chance of performance bias
• Familiar environment is often best

Form of data

How was the data captured?
• Voice recordings
• Video recordings
• Notes
Data collection methods

Data must be collected in a way that addresses the research question

Most common methods:

1. Observation
2. Interviews
3. Focus groups
4. Questionnaires
Observation

• Favoured in ethnography to study group behaviour

• Participant observation – researcher takes an active role in the group interaction

• Non-participant observation – researcher takes an unobtrusive role to minimise bias
Interviews

• Widely used research method

• Pre-set questions, broad list of topics or mix of both:
  • Structured
  • Semi-structured
  • Unstructured
Focus groups

• Group interview

• Communication between research participants generates data

• Requires expertise to manage
Questionnaires

Structured - Likert scale (e.g. strongly agree, agree, disagree etc.)

Unstructured – free text questions
Data saturation

• The point at which trends/themes start recurring and no new information emerges

• Is it applicable / realistic in every piece of qualitative research?

‘Differing data collection methods frame the sufficiency of data quantity in different ways and because of this it is questionable whether saturation can be applied in all cases’

O’Reilly and Parker (2013), pp.194-5
Q6. Has the relationship between researcher and participants been adequately considered?

• Has the researcher critically examined their own role, potential bias and influence during:
  a) formulation of the research questions
  b) data collection, including sample recruitment and choice of location?

• How did the researcher respond to events during the study and did they consider the implications of any changes in the research design?
Research bias / Reflexivity

To address bias, researchers can:

• Consider what their biases could have been, e.g. their role, relationship with subjects, etc., and make these clear

• Keep a reflective component in the field notes

• Engage in dialogue with the participants to clarify their views

Q7. Have ethical issues been taken into consideration?

• Are there sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained?

• Has the researcher discussed issues raised by the study (e.g. issues around informed consent of confidentiality or how they handled the effects of the study on participants during and after the study)?

• Was approval sought from the ethics committee?
Ethics

Details which can indicate ethical practice:

• Ethical review
• Informed consent
• Confidentiality
• Anonymity (if possible)
• Opportunities for participants to refuse/withdraw
• Use of protocol to manage any distress among participants

Q8. Was the data analysis sufficiently rigorous?

- Is there an-depth description of the analysis process?
- Is thematic analysis used? If so, is it clear how the categories/themes were derived from the data?
- Is there an explanation of how the data presented were selected from the original sample to demonstrate the analysis process?
- Is sufficient data presented to support the findings?
- To what extent are contradictory data taken into account?
- Has the researcher critically examined their own role, potential bias during analysis and selection of data for presentation?
Approaches to data analysis

Thematic analysis
• Presents the main elements of participants' descriptions by identifying key themes in the data

Framework analysis
• Summarises themes that emerge from data, resulting in a matrix which facilitates analysis of cases and themes

Content analysis
• Word-frequency count using a preferred coding system
• Produces counts or frequencies that can be analysed using standard statistical techniques
Data analysis – factors to consider

- Any computer software used (e.g. NVivo) should be stated
- Analysis should be repeated by more than one researcher
- Is the amount of data quoted adequate to support the researcher's description of the findings?
Q9. Is there a clear statement of findings?

• Are the findings explicit?

• Is there adequate discussion of the evidence both for and against the researcher’s arguments?

• Has the researcher discussed the credibility of their findings?

• Are the findings discussed in relation to the original research question?
Credibility of findings

**Triangulation:** comparison of results from

- two or more different methods of data collection (interviews & observation)
- two or more data sources (interviews with members of different interest groups)

**Respondent validation:** comparison of the researcher's account with those who took part in the research

More info: Pope and Mays (2006), pp.87-88
Q10. How valuable is the research?

• Does the researcher discuss the contribution the study makes to existing knowledge or understanding?

• Do they identify new areas where research is necessary?

• Do they discuss whether or how the findings can be transferred to other population or other ways the research may be used?
Tips for success

• Group work
• Read all the paper
• Review and feedback
• Consider how the research applies to your context

‘Undertaking a critical appraisal is really using your everyday skills, and applying them in a more structured and systematic way’ - Dawes (2005)
References


• Dawes, M (2005). *Evidence-based Practice: a primer for healthcare professionals* (2nd ed.).


Reflection

Please complete a short reflection questionnaire.

Either on paper or on your device at:
bit.ly/KCLreflection
(or scan QR code)

The session ID is NHS004
Reflection

Please complete a short reflection questionnaire.

Next month you’ll be emailed a link to a survey asking what impact today’s session has had for you. This helps us ensure that sessions are as useful as possible for NHS staff.

As part of the survey you’ll be asked to leave your details if you would like a certificate.