NHS004: Introduction to critical appraisal of qualitative research

Library Services, Learning and Skills

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Aim

• to increase your confidence in critically appraising qualitative research
• Your name + job

• What brings you to the session today?

• What experience do you have with qualitative research?
By the end of the session…

• Identify the main concepts of critical appraisal

• Identify some areas to consider when appraising qualitative research

• Practise using a checklist to critically appraise a piece of qualitative research

• Evaluate the strengths and weakness of a piece of qualitative research as a group
Slides + other materials

libguides.kcl.ac.uk/NHS
True or false? Critical appraisal is…

- tearing research apart

- a balanced evaluation of benefits and strengths of the research against its flaws and weaknesses

- assessment of a paper based on its results

- a process that can only be undertaken by experts and statisticians
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)

• ‘Critical appraisal is concerned with the acquisition of necessary skills with which to discern clinical research papers accurately’ (Ajentunmobi, 2002)
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…it begins with an intention to explore a particular area, collects “data”…and generates ideas and hypotheses’ (Greenhalgh, 2014)
Combining quantitative and qualitative methods

• ‘Both methods are valid if applied to appropriate research questions, and they should complement each other.’ (Bowling, 2014, p.143)

• ‘Certainly, the view that the two approaches are mutually exclusive has itself become “unscientific”…’ (Greenhalgh, 2014, p.164)
The Qualitytative Street exercise*

- Focus group study on participants’ experience of eating Quality Street chocolates
- Do you want to participate?

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
Appraisal

• How was the group “recruited”? Did anyone choose not to participate? Why?
• What aspects of the study might have affected how you participated?
• How were the data “collected”?
• How were the data “analysed”?
• How might we improve the validity of the findings?
How do I remember what to look out for?

Use a checklist to help - https://casp-uk.net/casp-tools-checklists/
Presenting your thoughts

• Share the information from the help card

• Share what you found in the article (page number / section)

• What do you think?
Q1. Was there a clear statement of the aims of the research?

• What was the goal of the research?

• Why was it thought important?

• 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?
Q2. Is a qualitative methodology appropriate?

Qualitative research might be appropriate:

- to explore real life behaviours and situations
- to explore how different people make sense of something
- for What?/How?/Why? questions – e.g. “What is it like to be the mother of an unborn baby?” “How do smokers feel about the various smoking cessation options available?” “Why do people not take the medicine prescribed to them?”
- to explore issues that are poorly understood or extend / modify existing theories

More info: Greenhalgh (2014), pp.164-168
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)?
Q3. Some examples of qualitative approaches

- **Phenomenology** – studies individual “lived” experiences

- **Ethnography** – studies a group’s cultural beliefs and values

- **Grounded theory** – data collected and hypotheses generated from this

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?)
Q4. Recruitment

- Samples tend to be small
- Study should clearly define characteristics of sample, inclusion / exclusion criteria, sampling + recruitment process

Some sampling approaches:
- 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

More info: Ulin, Robinson and Tolley (2005), pp.51-58
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 (e.g. focus group, semi-structured interview etc.)?
- 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 best
Data collection methods

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

• Most common methods:
  • Observation
  • Interviews
  • Focus groups
  • Questionnaires
Observation

• Used most frequently in ethnographic studies (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 – uses a topic guide
  - Unstructured
Focus groups

• Group interview

• Capitalises on communication between research participants to generate data

• Requires expertise to manage
Questionnaires

- Can vary in structure:
  - Structured - Likert scale (e.g. strongly agree, agree, disagree etc.)
  - Unstructured – free text questions
Form of data

• How was the data captured?
  • Voice recordings
  • Video recordings
  • Notes
Q5. 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)

More information: O’Reilly and Parker (2013)
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?
Q6. Reflexivity

• To address bias, researchers could:
  • Consider what their biases could have been – their role, relationship with subjects etc. and make these clear
  • Keep a reflective research diary
  • Engage in dialogue with the participants to clarify their views

Q7. Have ethical issues been taken into consideration?

- Is 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?
Q7. Ethics

Details which can indicate ethical practice:

- Ethical review – may be through ethics committee or health care system for example
- 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?

- In-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?
Q8. Data analysis

Two examples of approaches to data analysis:

• Thematic analysis – presents the main elements of participants’ descriptions by identifying key themes in the data
• Framework analysis – aims to generate policy and practice-oriented findings

• Any computer software used (e.g. Nvivo) should be stated
• Was the analysis done by more than one researcher?

More information: Green and Thorogood (2018), pp.249-284
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 (e.g. triangulation, respondent validation, more than one analyst)?
• Are the findings discussed in relation to the original research question?
Q9. 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 to those who took part in the research

More information: 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
• Keep calm and carry on!
• Review and feedback
• Consider 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

• Ajetunmobi, O. (2001) Making sense of critical appraisal
• Dawes, M (2005) Evidence-based practice: a primer for healthcare professionals (2nd ed.)
• Green, J. & Thorogood, N. (2018) Qualitative methods for health research (4th ed.)
• Greenhalgh, T. (2014) How to read a paper: the basics of evidence-based medicine (5th ed.)
• O’Reilly, M., & Parker, N. (2013). ‘Unsatisfactory Saturation’: a critical exploration of the notion of saturated sample sizes in qualitative research, Qualitative Research, 13(2), pp.190–197
Other support

NHS libguide - [libguides.kcl.ac.uk/nhs](libguides.kcl.ac.uk/nhs)

- Using the libraries
- Info on using databases + accessing full-text journal articles
- Other sessions (finding evidence quickly, using databases, introduction to critically appraising quantitative research)
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.