Issues of validity and reliability in qualitative research

Evidence Based Nursing: Research Made Simple Series

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Evaluating the quality of research is essential if findings are to be utilised in practice and incorporated into care delivery. In a previous article we explored ‘bias’ across research designs and outlined strategies to minimise bias.¹ The aim of this article is to further outline rigour, or the integrity in which a study is conducted, and ensure the credibility of findings in relation to qualitative research. Concepts such as reliability, validity and generalisability typically associated with quantitative research and alternative terminology will be compared in relation to their application to qualitative research. In addition, some of the strategies adopted by qualitative researchers to enhance the credibility of their research are outlined.

Are the terms reliability and validity relevant to ensuring credibility in qualitative research?

Assessing the reliability of study findings requires researchers and health professionals to make judgements about the ‘soundness’ of the research in relation to the application and appropriateness of the methods undertaken and the integrity of the final conclusions. Qualitative research is frequently criticised for lacking scientific rigour with poor justification of the methods adopted, lack of transparency in the analytical procedures and the findings being merely a collection of personal
opinions subject to researcher bias.\textsuperscript{2,3} For the novice researcher, demonstrating rigour when undertaking qualitative research is challenging because there is no of accepted consensus about the standards by which such research should be judged.\textsuperscript{2}

Although the tests and measures used to establish the validity and reliability of quantitative research cannot be applied to qualitative research, there are ongoing debates about whether terms such as validity, reliability and generalisability are appropriate to evaluate qualitative research.\textsuperscript{2,3,4} In the broadest context these terms are applicable, with validity referring to the integrity and application of the methods undertaken and the precision in which the findings accurately reflect the data, whilst reliability describes consistency within the employed analytical procedures\textsuperscript{4}. However, if qualitative methods are inherently different from quantitative methods in terms of philosophical positions and purpose, then alternative frameworks for establishing rigour are appropriate.\textsuperscript{3} Lincoln and Guba offer alternative criteria for demonstrating rigour within qualitative research namely truth value, consistency and neutrality, and applicability.\textsuperscript{5} Table 1 outlines the differences in terminology and criteria used to evaluate qualitative research.
Table 1: Terminology and criteria used to evaluate the credibility of research findings

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<tr>
<th>Quantitative research terminology &amp; application to qualitative research</th>
<th>Alternative terminology associated with credibility of qualitative research</th>
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| **Validity**  
The precision in which the findings accurately reflect the data. | **Truth value**  
Recognises that multiple realities exist; the researchers’ outline personal experiences and viewpoints that may have resulted in methodological bias; clearly and accurately presents participants’ perspectives. |
| **Reliability**  
The consistency of the analytical procedures, including accounting for personal and research method biases that may have influenced the findings. | **Consistency**  
Relates to the ‘trustworthiness’ by which the methods have been undertaken and is dependent on the researcher maintaining a ‘decision-trail’; i.e. the researcher’s decisions are clear and transparent. Ultimately an independent researcher should be able arrive at similar or comparable findings.  
**Neutrality (or confirmability)**  
Achieved when truth value, consistency and applicability have been addressed. Centres on acknowledging the complexity of prolonged engagement with participants and that the methods undertaken and findings are intrinsically linked to the researchers’ philosophical position, experiences and perspectives. These should be accounted for and differentiated from participants’ accounts. |
| **Generalisability**  
The transferability of the findings to other settings and applicability in other contexts. | **Applicability**  
Consideration is given to whether findings can be applied to other contexts, settings or groups. |

What strategies can qualitative researchers adopt to ensure the credibility of the study findings?

Unlike quantitative researchers, who apply statistical methods for establishing validity and reliability of research findings, qualitative researchers aim to design and incorporate methodological strategies to ensure the ‘trustworthiness’ of the findings. Such strategies include:

1. Accounting for personal biases which may have influenced findings;\(^6\)
2. Acknowledging biases in sampling and ongoing critical reflection of methods to ensure sufficient depth and relevance of data collection and analysis.;\(^3\)
3. Meticulous record keeping, demonstrating a clear decision trail and ensuring interpretations of data are consistent and transparent;\textsuperscript{3,4}

4. Establishing a comparison case/ seeking out similarities and differences across accounts to ensure different perspectives are represented;\textsuperscript{6,7}

5. Including rich and thick verbatim descriptions of participants’ accounts to support findings;\textsuperscript{7}

6. Demonstrating clarity in terms of thought processes during data analysis and subsequent interpretations; \textsuperscript{3}

7. Engaging with other researchers to reduce research bias; \textsuperscript{3}

8. Respondent validation: includes inviting participants to comment on the interview transcript and whether the final themes and concepts created adequately reflect the phenomena being investigated;\textsuperscript{4}

9. Data triangulation,\textsuperscript{3,4} whereby different methods and perspectives help produce a more comprehensive set of findings. \textsuperscript{8,9}

Table 2 provides some specific examples of how some of these strategies were utilised to ensure rigour in a study that explored the impact of being a family carer to patients with stage 5 chronic kidney disease managed without dialysis.\textsuperscript{10}

**Table 2: Strategies for enhancing the credibility of qualitative research**

| Truth value |反射性与自我反思，以及对研究的反思：
- 反思性日志的维护和决策的记录。
- 同行讨论以帮助研究者发现未被承认的偏见或假设。例如，早期的质性访谈是医学导向的，而随后的访谈采取了更加综合的方法。
- 代表性与发现的相关性。例如，19名患者的样本，以及他们愿意分享其护理患者的深度和长期经历，使发现的澄清过程持续。移动音频记录的访谈允许重复访问数据，以检查出现的主题，并保持参与者对患者护理行为的真正支持。
- 使用来自未透析患者的患者护理者的丰富、详细的原话，帮助读者判断最终主题是否与参与者的真实账户一致。
- 邀请参与者对研究发现的评论。
|
Achieving auditability:
- Transparent and clear description of the research process from initial outline, through the development of the methods and reporting of findings. In addition maintaining a research diary documenting challenges and issues assisted in maintaining cohesion between the study’s aim, design and methods;
- Emerging themes discussed with research team members who had palliative and qualitative research expertise in an open process where assumptions could be challenged and consensus reached.

Application of findings to others contexts:
- Rich detail of context, the renal setting, including the patients managed within the service, facilitates the evaluation of study conclusions and transferability to other renal units.

In summary, it is imperative that all qualitative researchers incorporate strategies to enhance the credibility of a study during research design and implementation. Although there is no universally accepted terminology and criteria used to evaluate qualitative research, we have briefly outlined some of the strategies that can enhance the credibility of study findings.

References

1Smith, J., Noble, H. Bias in research. Evidence Based Nursing, 2014; 17, 2, 2-3.