A methodological review of qualitative case study methodology in midwifery research

ABSTRACT**:**

*Aim:* To explore the use and application of case study research in midwifery.

*Background:* Case study research provides rich data for the analysis of complex issues and interventions in the healthcare disciplines however a gap in the midwifery research literature was identified.

*Design:* A methodological review of midwifery case study research using recognised templates, frameworks and reporting guidelines facilitated comprehensive analysis.

*Data Source*s: An electronic database search using the date range January 2005 - December 2014: Maternal and Infant Care, CINAHL Plus, Academic Search Complete, Web of Knowledge, SCOPUS, Medline, Health Collection (Informit), Cochrane Library Health Source: Nursing/Academic Edition, Wiley online and ProQuest Central.

*Review Methods:* Narrative evaluation was undertaken. Clearly worded questions reflected the problem and purpose. The application, strengths and limitations of case study methods were identified through a quality appraisal process.

*Results:* The review identified both case study research’s applicability to midwifery and its low uptake, especially in clinical studies. Many papers included the necessary criteria to achieve rigour. The included measures of authenticity and methodology were varied. A high standard of authenticity was observed, suggesting authors considered these elements to be routine inclusions. Technical aspects were lacking in many papers, namely a lack of reflexivity and incomplete transparency of processes.

*Conclusion:* This review raises the profile of case study research in midwifery. Midwives will be encouraged to explore if case study research is suitable for their investigation. The raised profile will demonstrate further applicability; encourage support and wider adoption in the midwifery setting.

SUMMARY STATEMENT*:*

*Why is this research or review needed?*

* A gap was identified in the uptake of case study research conducted by midwives.
* Methodologically strong case study reports provide guidance for other researchers seeking to use the same approach.
* This review mapped the uptake of midwifery case study research and critically analysed the application, strengths and limitations of case study methods.

*What are the key findings?*

* Although case study research has a low profile in midwifery contexts the papers examined had investigated diverse situations using a broad array of research questions.
* A high standard of authenticity was observed, suggesting authors considered these elements to be routine inclusions.
* Technical aspects were lacking in many papers, namely a lack of reflexivity and incomplete transparency of processes.

*How should the findings be used to influence policy/practice/research/education?*

* Midwifery researchers will be provided with increased resources on how to design conduct and report a methodologically strong case study.
* Midwives will be encouraged to explore if case study research may be suitable for their investigation.
* The raised profile will further demonstrate applicability; encourage support and wider adoption in the midwifery setting.

*Keywords:* methodological review, case study research, qualitative research, methodology, midwifery, midwives, maternity

INTRODUCTION

Midwifery research is a rapidly growing global field with a range of qualitative and quantitative studies. Epidemiological methods and randomised controlled trials (RCT) are used due to an interest in ‘cause and effect’ and implications for clinical practice. However, when the evidence-based intervention is applied the findings may not translate into practice in the real world (Glasziou & Haynes 2005, Woolf 2008). The well-regarded RCT is insufficient to answer all types of research questions (Mackenzie *et al*. 2010), particularly with complicated health care problems (Blackwood *et al*. 2010). The focus of qualitative research is on experience and the ways the everyday world is understood and interpreted (Jirojwong & Welch 2011). Qualitative research assists the evaluation of ‘complex interventions’ (Craig *et al.* 2008) by providing an in-depth understanding of human behaviour.

Case study research (CSR) enhances the understanding of complex contextual/cultural/behavioural factors (Stake 1995, Yin 2014) through its deep and multi-faceted examination of the issue of concern. CSR may influence the translation of knowledge into practice. CSR’s potential does not appear to have been realised in midwifery research. A gap in the English-speaking literature was identified with apparently fewer studies using CSR in midwifery than in nursing. This paper presents a methodological review of midwifery context CSR.

The review process is informed by previous work in the CSR field in nursing (Anthony & Jack 2009), using a specific analysis framework (Whittemore & Knafl 2005). The framework’s advantage is the inclusion of strategies to enhance rigour. The review seeks to explore the use and application of case study research in midwifery. The purpose of the review is to analyse the application, strengths and limitations of midwifery case study methods. The results will be useful to midwives contemplating the use of CSR by providing information on how to design, conduct and report methodologically strong studies.

**Background**

While CSR first appeared around 1900 in the discipline of anthropology (Yin 2014) its profile in textbooks didn’t become visible until after the 1980s (Merriam 2009). Different CSR approaches have been employed and its interpretation has caused confusion (Woodside 2010), which may have contributed to the low profile in midwifery. Table 1 briefly describes different ‘types’ of case study that have been proposed by authors in the CSR field, demonstrating its flexibility as a research approach.

The case study report is a detailed narrative. It is a story with a beginning, middle and end that is written to suit the intended audience. The report must detail the literature review and methodology; demonstrate the significance of the study and its findings while providing alternative perspectives that enable the reader to draw their own conclusions (Yin 2014). An integrative review by Anthony & Jack (2009) informed the use of CSR in nursing. A range of researchers used CSR to further develop nursing knowledge, with the authors identifying 42 published papers over a 30-month period (January 2005 to June 2007). Categorical analysis of the literature revealed nine classifications including 'family/maternal child.’ Two of the papers in this category were clearly midwifery-context studies (Hindin 2006, Sittner *et al*. 2005). A gap in the literature was apparent with far fewer studies using CSR in midwifery research than in nursing.

Some places view nursing and midwifery as the same profession. Major changes have occurred in both professions over the last 30 years and midwifery is now considered a discrete entity (Pairman & Donnellan-Fernandez 2015), with Australia recommending regulatory changes to its National Law (Snowball 2014). Either way applied health research aims to improve outcomes in midwifery and for women. Of course nursing and midwifery are complementary professions, sharing a health promotion philosophy, health skills and knowledge and a belief in consumer rights. Midwifery uses a wellness paradigm and a woman-centred approach to care provision within a clearly defined scope of practice (Nursing and Midwifery Board of Australia 2010). The wide-ranging benefits of midwifery models of care have also been demonstrated by a recent Cochrane review (Sandall *et al*. 2015). The fundamental differences in the practice areas means midwifery context research may be more useful to midwife researchers. Midwifery research is relatively ‘young’, rising from a challenge to improve maternity care (Farley 2005) and continues to create its own identity. Midwifery has steadily built up research capacity (Brodie & Barclay 2001, Nicholls & Webb 2006). The necessity of a research agenda was recognised (Kennedy *et al*. 2007) and priorities for midwives continue to be identified (Jordan *et al*. 2013), in part as ‘the future of the midwifery profession is reliant on building research leaders’ (Hauck *et al*. 2015, p. 263).

It is interesting therefore to examine CSR’s profile in midwifery research. Research questions that ask ‘how’ and ‘why’ are well suited to CSR (Yin 2014) because they deal with the lived experience and provide breadth and depth, as opposed to frequencies or incidence. This methodological review sought to explore the extent of CSR in contemporary midwifery literature and examine its usefulness for further research. The next section details the methodological review and outlines the process used.

THE REVIEW

**Aim**

The aim of this methodological review is to conduct an analysis of the contemporary literature on qualitative case study research in midwifery. Anthony and Jack’s (2009) review offered a useful template. Clearly worded research questions are an important feature of methodological reviews, reflecting the problem and purpose (Whittemore & Knafl 2005). The research questions guiding this review are as follows:

1. Where has CSR been used in midwifery research?
2. Why has CSR been used in midwifery research?
3. How has CSR been used in midwifery research?
4. How has midwifery CSR been reported in the literature?

**Design**

The methodological review provides a narrative summary of the literature on a specific concept or content area. The review has the potential to comprehensively portray complex concepts, theories or healthcare problems, contribute to theory development as well as being applicable to practice and policy (Whittemore & Knafl 2005). A detailed approach to critically review and analyse the designs and methods of a series of studies is used (Whittemore 2005). The review process follows recognised steps: identifying and defining the problem, searching for literature, extracting the data, critically analysing the studies, discussing the results and presenting the findings (de Souza *et al*. 2010). Published midwifery context methodological reviews include: complementary alternate medicines (Adams *et al*. 2011); choice around the place of childbirth (Hadjigeorgiou *et al*. 2012); professional issues (Nicholls & Webb 2006) and implementing the Baby-Friendly Initiative (Seminic *et al*. 2012). There is no single agreed framework however to assist with systematically reviewing the qualitative and quantitative evidence. One framework, the *quantitative case survey method* (Yin & Heald 1975, Mays *et al*. 2005) uses a set of structured questions to extract data from each paper. In this instance data includes the nature of the case study, design, methods and findings. Qualitative data is converted into a numerical form to be quantified either in a frequency count or binary form and to aid systematic comparison. Papers in the review were then grouped according to assessment of overall methodological limitations present, namely high, medium or low.

**Search method**

A thorough electronic search of databases where midwifery context literature is published was undertaken using a date range of January 2005 - December 2014. The databases searched were: Maternal and Infant Care, CINAHL Plus, Academic Search Complete, Web of Knowledge, SCOPUS, Medline, Health Collection (Informit), Cochrane Library Health Source: Nursing/Academic Edition, Wiley online and ProQuest Central. Search terms included various combinations of the following keywords/subject terms: case stud\*, midwi\*, matern\* care, maternity nurse, nurse-midwi\*, method\*, qualitative research, research. Reviewing the reference list of accessed papers (ancestry searching) was also attended, as was a review of the 'in press' section of a popular international midwifery journal ([Midwifery http://www.journals.elsevier.com/midwifery/, 2015](#_ENREF_14)). Using more than one type of searching strategy reduces the potential for an incomplete or biased search and improves rigour (Whittemore & Knafl 2005).

**Search Outcome**

The flowchart of the literature search process is outlined in Figure 1. Carefully considered inclusion/exclusion criteria to ensure the sample was specifically applicable to midwifery CSR (Table 2) were used to assess and review the data. Duplicate publications were identified and a total of 489 papers were excluded.

Because of the large number, excluded papers are not listed. Papers were excluded primarily because they described clinical case studies rather than the CSR approach or did not use recognised terminology. The variety of midwife ‘titles’ currently in use such as nurse-midwife, maternity nurse or maternal and child nurse were included. Papers that were not midwifery specific in terms of context or authorship were excluded. Where the abstract was unclear the full paper was retrieved and examined to decide on exclusion or inclusion. Thirteen papers remained in the final sample to inform the review. The papers were summarised and reviewed for descriptive details about the included CSR methodology recommended by Yin (2014) (Table 3).

**Quality Appraisal**

An assessment was undertaken to determine if the studies included in the review addressed the recommended criteria for the reporting of qualitative studies. Our assessment was based on the Recommended Standards for Reporting Qualitative Research (SRQR) (O'Brien *et al*. 2014) (Supplementary information Table 1). The majority of papers (10/13, 76.9%) rated highly in mentioning or discussing in detail 16 or more of the 21 recommended items. One paper included 19 items (Wilson 2012). The standards least included were researcher characteristics and reflexivity, conflicts of interest and funding. Ten papers (76.9%) mentioned or discussed in detail nine or more of the 12 items recommended for inclusion in the methods section, with three papers including 11 items (Allen *et al*. 2010, Lagendyk & Thurston 2005, Wilson 2012). Overall, these three papers demonstrated the highest reporting standards.

**Data Abstraction**

The 13 papers were summarised and tables created to compare primary data (Whittemore & Knafl 2005) (Table 3). A table is a good starting point for interpretation of data as any patterns and relationships that may exist are easily visualised.

Most papers classified the type of case study. Only one paper, the second of a three part series, excluded a literature review. The sampling method was clearly identified. The majority of studies used two or more data collection techniques, with interviews and or focus groups a common feature. Most papers identified methods to ensure rigour. Analysis of qualitative data was usually ‘thematic’. All papers identified issues of significance about the study and implications for midwifery practice. Half the papers provided a gap analysis or discussed alternative perspectives, namely what the data were not saying and where further analysis or research is required.

**Synthesis**

In the first phase of data reduction primary sources were logically divided into subgroups to facilitate analysis (Whittemore & Knafl 2005). The second phase involved extracting and coding data from the primary sources into a manageable framework (Yin & Heald 1975). Concise organisation of the literature aids the comparability of primary sources (Whittemore & Knafl 2005). Data were regrouped and numerical values assigned to assist with comparability and answer the research questions. The appraisal system enhanced critical analysis of the methodological processes. The papers were also grouped into one of three broad themes: Clinical, Health Service Design and Education/Research.

A study’s overall generalizability is affected by the methodological criteria and standards that are attained (Daly *et al*. 2007). The validity of qualitative research is stronger if the collection, interpretation and assessment of data demonstrate authenticity as a primary criteria (Whittemore *et al*. 2001), remains true to the phenomenon under study and accounts for the investigator’s perspective. For research to be of benefit to the wider society authenticity and trustworthiness in the methods of data collection and analysis are essential.

An initial appraisal system was developed to assess the papers’ methodological limitations, which would impact the interpretation of evidence and development of findings (Supplementary information Table 2).

Popay (2008, cited in Garside 2014) recommended quality (epistemological and theoretical) aspects be considered separately to reporting (technical) guidelines.

A published template (Anthony & Jack 2009) and recommendations for inclusions in a CSR report (Yin 2014) were amalgamated to inform the assessment of authenticity. Authenticity of the account of the phenomenon being investigated was assessed by the inclusion and description of the process of CSR that occurred: (a) the identification of a specific theoretical support to shape the design of the study and enhance generalizability, (b) the use of multiple data sources to ensure all perspectives were examined and (c) if the consideration of rigour was clearly discussed considered or mentioned. Four criteria of rigour or trustworthiness were used: credibility; dependability; confirmability; and the transferability of findings. To aid systematic comparison a numerical value of 3 could be assigned for authenticity if all issues (theoretical support, multiple data sources and rigour) were addressed.

Methodological completeness was assessed separately. Interviews and or focus groups were common to all papers included in the review. The Consolidated Criteria for Reporting Qualitative Research (COREQ) tool for interviews and focus groups (Tong *et al*. 2007) was used. To aid systematic comparison the three domains of the tool were each assigned a numerical value of 1 if the majority of the items were at least minimally discussed, resulting in a maximum assignment of 3. There is a slight overlap of criteria with both the theorist and rigour appearing in each tool however it was considered to be an essential aspect to retain. The papers were then grouped according to their demonstration of high medium or low methodological limitations (Table 4).

RESULTS

The purpose of this review was to analyse the application, strengths and limitations of case study methods found in published midwifery literature. The results answer the four research questions.

*Where has CSR been used in midwifery research?*

Case study research has had a low uptake in English language midwifery research, with 13 papers identified from January 2005 - December 2014 (Table 3). The literature originated primarily from the United Kingdom (5/13), followed by the United States (3/13), Canada (2/13), Australia (1/13) and Europe (1/13). In this sample CSR was found primarily in health service design (6/13), followed by education and research (5/13) and least in the clinical setting (2/13) (Table 6). Improvements in health services occurring in response to local need were evaluated (Kreiner 2009). The influence of contextual factors on midwives and the implementation of health programs were discussed (Goodman 2007, Lagendyk & Thurston 2005). Specific midwifery roles (Richards 2011, Sinclair *et al*. 2005), professional registration issues (Gray *et al*. 2014) and safety culture (Allen *et al*. 2010) were explored in depth. Midwifery practice development evaluations occurred in the tertiary setting (Dow 2012) and the workplace (Marshall 2012, Wilson 2012). The development of midwifery research in four country settings was described (Luyben *et al.* 2013). Clinically, the impact of high-risk pregnancies on families was examined (Sittner *et al*. 2005) as well as the antenatal screening practices in relation to intimate partner violence (Hindin 2006). To date, health service design with its distinct boundaries and clear need for evaluation seems to have found the greatest application with midwife researchers using the CSR approach.

*Why has CSR been used in midwifery research?*

Case study research is suited to describing, exploring or explaining a phenomenon in its real life context (Yin 2014). All studies provided a purpose/aim/objective. CSR was primarily used to ‘explore’ (6/13), ‘examine’ (3/13) or ‘investigate’ (2/13), it was also used to ‘evaluate’ and ‘document’ (2/13) a diverse range of phenomena (Table 3). In all studies, gathering and describing the experience, perception and opinion of stakeholders or participants was an essential feature. The phenomena of interest included issues broadly grouped under the themes of: professional practice (Allen *et al.* 2010, Goodman 2007, Hindin 2006, Sinclair *et al*. 2005, Sittner *et al*. 2005), professional development (Dow 2012, Luyben *et al*. 2013, Marshall 2012, Richards 2011, Wilson 2012, Gray *et al*. 2014) and health service delivery (Kreiner 2009, Lagendyk & Thurston 2005) (Table 6). Published CSR reports described and discussed issues of interest to a broad range of midwives.

*How has CSR been used in midwifery research?*

The methodological processes included in the published reports were appraised to identify any limitations present that would impact on the interpretation of evidence and development of findings (Table 4). One paper (7.8%) (Allen *et al*. 2010) demonstrated a low degree of methodological limitations, suggesting significant confidence could be placed in the interpretation of evidence and discussion of findings. Two papers (15.3%) (Goodman 2007, Luyben *et al*. 2013) demonstrated a high degree of methodological limitations, suggesting the lowest level of confidence. The remaining ten papers (76.9%) demonstrated a medium degree of limitations were present with moderate confidence applicable.

Authenticity was assessed through the inclusion of a theoretical support, multiple data sources and rigour. Nine papers (69.2%) identified or discussed the ‘type’ of case study employed; five papers also included a supporting theoretical framework (Dow 2012, Kreiner 2009, Luyben *et al*. 2013, Sinclair *et al*. 2005, Sittner *et al*. 2005). Eight papers (61.5%) described and discussed their use of appropriate strategies to improve rigour, in particular credibility, dependability and confirmability. For example: the use of external peer review of analysis (Sinclair *et al*. 2005); triangulation (Dow 2012, Kreiner 2009); participant confirmation/feedback (Gray *et al.* 2014); the use of an audit trail (Sittner *et al*. 2005) and pilot testing the data collection tool (Marshall 2012). Only one paper (Allen *et al*. 2010) also included evidence of reflexivity as a specific strategy to ensure rigour. Ten studies used multiple sources of data collection, which is a recognised measure of validity (Yin 2014). Ten papers (76.9%) demonstrated low or medium methodological limitations when considering authenticity, suggesting the authors considered these elements routine inclusions.

As all studies included interviews and or focus groups in their data collection, the COREQ checklist for reporting qualitative studies (Tong *et al*. 2007) was used as a further appraisal tool for elements to be expected in a CSR report *(see supplementary table 2).* The critical appraisal tool consists of three domains. Domain 1 considers the research team and reflexivity. Of the eight recommendations, 15.3% of papers included one or two and 84.5% included up to four items in their report, indicating this section achieved low to moderate attention. Personal bias was addressed by indicating gender (13/13), credentials (8/13) and occupation (9/13), however there was no indication of experience or training included that would reflect on the credibility of findings. Only one paper included a discussion on reflexivity (Allen *et al.* 2010).

Domain 2 examines the study design. Of the fifteen recommendations, 46.1% of papers included up to five, 46.1% included up to ten and 7.8% included twelve items in their report, indicating this section achieved low to moderate attention. Although equal numbers of papers classified the type of CSR case and provided a guiding theorist (9/13), both elements were not necessarily included in the one report (5/13). Detailing recruitment indicated the importance researchers placed on sampling. Inclusion of the type of sampling employed (11/13), sample size (13/13) participant characteristics (9/13) plus a discussion about any refusals to participate (4/13) affected the conclusions able to be drawn from the paper’s findings. Only three papers included all four elements (Allen *et al.* 2010, Lagendyk & Thurston 2005, Sittner *et al.* 2005). Minimal discussion occurred of other issues that could act as an enabler or barrier to the amount of data achieved, such as setting of the interview (3/13) and the presence of non-participants (0/13). Additional information to enable the reader to determine transferability of findings to their own context included: the use of question guides (10/13), recording methods (10/13) the length of the interview (4/13) and data saturation (1/13). One paper included all four elements (Luyben *et al*. 2013). Participant checking (3/13) and the use of field notes (1/13) as a further means to ensure validity did not feature significantly.

Domain 3 addresses the analysis and findings. Of the nine recommendations, 7.8% papers included up to three, 53.8% included up to six and 38.4% included the maximum of nine items in their report, indicating this section had received moderate to high attention. The description of the analysis and findings influences a paper’s credibility. Themes were invariably derived from the data (12/13) and using a manual process (12/13) rather than a software package (1/13) (Gray *et al*. 2014). Three papers (Allen *et al.* 2010, Kreiner 2009, Sittner *et al*. 2005) created a clear audit trail although several papers included elements such as a coding tree (5/13) and member checking (5/13). Trustworthiness was supported through the wide use of participants’ voices (11/13) that were interspersed through the findings. All papers presented major themes and the majority (11/13) also included minor themes.

Only one paper demonstrated low methodological limitations when considering methodology (Allen *et al*. 2010). Five papers (38.4%) demonstrated moderate limitations and seven papers (53.8%) high limitations. The high percentage of recommendations that were absent suggests the authors did not consider these elements routine inclusions.

Yin’s (2014) recommendation to incorporate a discussion of significance, implications for midwifery practice and alternate perspectives into CSR reports were also reviewed (Table 3). All papers clearly identified the significance of the findings of their study and the implications for midwifery practice. However alternative perspectives, a strategy to clearly demonstrate the researcher has reduced bias, were less frequently present (53.8%). Despite the low number of papers available for review the results are similar to Anthony and Jack’s (2009) review of nursing CSR, suggesting that CSR in midwifery has a comparable authenticity and methodological standard.

*How has midwifery CSR use been reported in the literature?*

The limited publication of CSR in midwifery literature influences this question. Midwifery context CSR is published in peer reviewed journals making it visible and accessible to midwife researchers. Ten papers (76.9%) were published in a variety of midwifery/maternity care journals: *Midwifery* (4/13), the *British Journal of Midwifery* (2/13), the *Journal of Midwifery & Women’s Health* (2/13), *Evidence Based Midwifery* (1/13) and *Maternal Child Nursing* (1/13). The remaining three papers were published in education journals such as *Nurse Education Today* and *Nurse Education in Practice* and a sociology journal *Social Science & Medicine*.

The papers’ titles and keywords did not necessarily match, demonstrating the need for midwife researchers to use broad terms both as keywords and when searching. The title of four papers self-identified as a case study (Allen *et al.* 2010, Lagendyk & Thurston 2005, Marshall 2012, Sinclair *et al*. 2005) and two papers included case study in the list of keywords (Gray *et al*. 2014, Sinclair *et al.* 2005). Keywords were completely absent in three papers (Dow 2012, Richards 2011, Sittner *et al*. 2005). Where included the most commonly used terms were midwifery/midwives/certified nurse-midwives (5/13) (Goodman 2007, Kreiner 2009, Luyben *et al*. 2013, Marshall 2012, Sinclair *et al*. 2005).

DISCUSSION

This paper reviewed 13 papers that used CSR in a midwifery context. CSR has been established as an approach to deeply explore and evaluate phenomena of professional interest, making a significant contribution to the current body of knowledge and informing practice. CSR publications have been mapped, confirming that this approach is used to a lesser extent in midwifery than in nursing contexts. There is also a lack of literature that suggests how CSR can be implemented in midwifery research. This review has demonstrated CSR’s applicability to midwifery, with the design used in a diversity of situations to answer a broad array of research questions. Finally this review has highlighted areas where CSR reports provide clear guidance and where further detail or greater consistency in methodological approach is required.

The answers to the research questions describe what is currently known about midwifery context CSR, namely where, why and how it is being used. There was a broad array of issues investigated and research questions posed demonstrating the overall versatility of midwifery CSR. CSR is a useful choice when researchers are interested in insight, discovery and interpretation rather than hypothesis testing (Merriam 2009). The reviewed papers captured and retained the ‘noise’ of midwives’ professional lives and revealed the highly complex contexts and conditions where they worked. The chronicling of participants’ lived and perceived experiences assisted with understanding complex inter-relationships. The findings support the claim that CSR is useful for studying educational innovations, evaluating programs and informing policy (Merriam 2009). Additions to the body of midwifery knowledge was demonstrated through the examination of professional practice, professional development and health service delivery in relation to maternity health service design, midwifery education and midwifery research. Clinical issues appeared minimally, even though practice issues such as antenatal and intrapartum care contain a degree of complexity that CSR is well suited to investigate. Midwifery researchers appear unaware of this potential.

The findings of this review indicate that many studies included the necessary criteria to achieve methodological rigour: identification of purpose, case type, theoretical support, literature review, sampling procedure, data collection methods, analysis method and rigour. Critical analysis revealed however that several areas received less attention than is recommended (Tong *et al*. 2007). Reflexivity was lacking yet self-awareness of the researcher is a significant part of the research process (Houghton *et al*. 2013). Reflexivity is strongly recommended by CSR authors (Flyvberg 2011) and midwife academics (Burns *et al*. 2012). Decreased bias and increased credibility of the study’s findings will result when researchers ‘situate’ themselves and their participants clearly in the report (Stake 1995). Furthermore a demonstrable ‘chain of evidence’ increases reliability (Yin 2014). There was a lack of detail around the interview process and analysis audit trail to demonstrate how researchers have appraised and developed an understanding of the data.

Papers lacking methodological robustness may decrease CSR’s desirability as a research approach in midwifery and lessen its impact. Papers that do not address all the essential components of a CSR report are at risk of presenting a less than optimal product. The lack of methodological substance decreases the finding’s value to the wider community, which in turn affects the translation of knowledge into midwifery practice. A criticism of CSR is that there is ‘too much data for easy analysis’ and the complexity examined is ‘difficult to represent simply’ (Hodkinson & Hodkinson 2001). Consequently aspects of the final narrative are omitted. The findings of this review would seem to lend some support to this claim. The methodological completeness of the papers was variable; however Crowe and Sheppard (2011) suggest it is the author’s responsibility to ensure important information is not missing from an article before it is published.

The findings of this review add to the general body of midwifery knowledge, increase the profile of CSR and offer midwife researchers several resources. Access is gained to a list of recent papers to peruse to get a ‘feel’ for this approach. Clear guidance on the optimal inclusions for qualitative research is obtained. Attaining and maintaining transparency at all stages of the research process should improve quality by surfacing the strengths and weaknesses. An acknowledged limitation of this review is that only English language publications were accessed. Although every effort was made to reduce bias through the data search method (Whittemore & Knafl 2005) there is still potential for incomplete findings. In general however most midwifery studies are published in English speaking journals (Luyben *et al*. 2013) which support the strength of the evidence found here.

CONCLUSION

This paper presents a methodological review of midwifery CSR using templates (Anthony & Jack 2009, Yin 2014) and a well-established analysis framework (Whittemore & Knafl 2005) to enable a comprehensive analysis (Yin & Heald 1975). The review demonstrated that while the published literature is scarce the findings are similar to Anthony and Jack’s (2009) review of nursing CSR, suggesting that CSR in midwifery has a comparable authenticity and methodological standard.

Case study research needs to be seen as an approach rather than as a single methodology. When conceptualised as such, CSR is able to meaningfully privilege participants’ ‘voices’ through its use of a wide range of complementary data collection methods. The understanding of the complex contextual/cultural/behavioural factors that influence the translation of knowledge into midwifery practice is significantly enhanced. This review provides multi-level guidance for the midwife-researcher seeking to undertake CSR. Midwives are encouraged to explore if CSR may be applicable to their investigation. As more studies using this approach are undertaken and methodologically complete reports published, the raised profile will further demonstrate applicability; encourage support and wider adoption in the midwifery setting.

**Conflict of interest**

No conflict of interest has been declared by the authors

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