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RESEARCH METHODOLOGY: DISCUSSION PAPER – METHODOLOGY

Running Author: BOOTH et al.

Qualitative evidence syntheses: Assessing the relative contributions of multi-context and single-context reviews

Andrew Booth[1], Email a.booth@sheffield.ac.uk

@AndrewB007h

Suleiman Mshelia[2]

Chukwudi V. Analo[3]

Sarange Brenda Nyakang'o[4]

[1] School of Health and Related Research (ScHARR) University of Sheffield Sheffield UK

[2] Vom Christian Hospital Jos South Nigeria

[3] North Manchester General Hospital Pennine Acute Hospital NHS Trust Manchester UK

[4] Unaffiliated, formerly of School of Health and Related Research (ScHARR) University of Sheffield Sheffield UK

Correspondence

Andrew Booth, Reader in Evidence Based Information Practice, School of Health and Related Research (ScHARR), University of Sheffield, Regent Court, 30 Regent Street, Sheffield, S1 4DA, UK.

Email: a.booth@sheffield.ac.uk

Abstract

Aims

To examine the strengths and weaknesses of multi-context (international) qualitative evidence syntheses in comparison with single-context (typically single-country) reviews. We compare a multi-country synthesis with single-context syntheses on facility-based delivery in Nigeria and Kenya.

Design

Discussion paper.

Background

Qualitative evidence increasingly contributes to decision-making. International organizations commission multi-context reviews of qualitative evidence to gain a comprehensive picture of similarities

and differences across comparable (e.g., low- and middle-income) countries. Such syntheses privilege breadth over contextual detail, risking inappropriate interpretation and application of review findings. Decision-makers value single-context syntheses that account for the contexts of their populations and health services. We explore how findings from multi- and single-context syntheses contribute against a conceptual framework (adequacy, coherence, methodological limitations and relevance) that underpins the GRADE Confidence in Evidence of Reviews of Qualitative Evidence approach.

Data sources

Included studies and findings from a multi-context qualitative evidence synthesis (2001–2013) and two single-context syntheses (Nigeria, 2006–2017; and Kenya, 2002–2016; subsequently, updated and revised).

Findings

Single-context reviews contribute cultural, ethnic and religious nuances and specific health system factors (e.g., use of a voucher system). Multi-context reviews contribute to universal health concerns and to generic health system concerns (e.g., access and availability).

Implications for nursing

Nurse decision-makers require relevant, timely and context-sensitive evidence to inform clinical and managerial decision-making. This discussion paper informs future commissioning and use of multi- and single-context qualitative evidence syntheses.

Conclusion

Multi- and single-context syntheses fulfil complementary functions. Single-context syntheses add nuances not identifiable in the remit and timescales of a multi-context review.

Impact

- This study offers a unique comparison between multi-context and single country (Nigeria and Kenya) qualitative syntheses exploring facility-based birth.
- Clear strengths and weaknesses were identified to inform commissioning and application of future syntheses.

- Characteristics can inform the commissioning of single- and multi-context nursing-oriented reviews across the world.

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facility-based delivery, midwives, nursing research, qualitative evidence synthesis, research findings, systematic reviews

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1. INTRODUCTION

The value of qualitative research to decision-making is increasingly recognized (Langlois, Tunçalp, Norris, Askew, & Ghaffar, 2018). Qualitative research can be used to understand the priorities and concerns of those receiving health services, together with their families and carers. Furthermore, it can elicit perspectives on implementation from those delivering services and on the decision-making processes of those commissioning health services. It can also capture the attitudes of the public to provision and use of health services. Specifically, qualitative research offers evidence related to questions of acceptability, feasibility and implementation. Primary qualitative research is context-sensitive, and this may limit its transferability across contexts (Carroll, 2017). Qualitative Evidence Synthesis (QES) is the umbrella term preferred in the Cochrane Qualitative and Implementation Methods Group to capture multiple types of systematic reviews of qualitative evidence (Flemming, Booth, Garside, Tunçalp, & Noyes, 2019). QESs can help in exploring multiple contexts and in identifying patterns of similarity and difference across numerous studies, countries and time periods. They can take us beyond answering 'what works?' towards 'what happens?' (Petticrew, 2015).

Qualitative Evidence Synthesis may also accommodate higher levels of interpretation and conceptual innovation. A reader can arrive at an understanding that 'goes beyond' the findings of any individual study. However, a decision-maker may focus only on findings from contexts that they personally judge to be relevant. Faced with a choice between a generic synthesis, that reviews qualitative studies across multiple contexts and a context-specific (e.g., country-specific) synthesis, tailored to the local requirements of a decision-maker, those commissioning reviews need to understand the strengths and limitations of each approach.

1.1. Background

Reviewers have long been concerned about the generalizability of systematic reviews. Only comparatively recently has this discourse been extended to QESs. While QESs engage with 'transferability', rather than 'generalisability' (Munthe-Kaas, Nøkleby, & Nguyen, 2019), they must equally demonstrate their impact on day-to-day decision-making. Increasing awareness of the complexity and context-sensitivity of most health services has revealed the challenges of applying evidence from one or more study populations to single or multiple target populations (Booth et al., 2019). Anecdotal evidence suggests that decision-makers 'cherry-pick' studies identified by a systematic review or QES, subjectively making relevance judgements. Some cultures actively resist the influence of studies from particular countries, questioning their relevance, while other cultures are amenable to findings from those very same countries, particularly if they are perceived to share cultural or historical heritage or regional proximity. Review methodologists have thus started to debate the competing merits of multi-context versus single-context reviews.

Hannes and Harden were the first to articulate the multi-context versus single-context debate as it relates to systematic reviews of qualitative research. Hannes had been a review author of a review that sought to consolidate experience of implementing evidence-based practice in Belgium. As a researcher from a non-Anglophone country faced with a proliferation of studies from English-speaking countries she collaborated (Hannes & Harden, 2011) to rehearse arguments for country-specific reviews and, by extension, for any QES that limits its ambition by context, e.g., time and/or place. Subsequently, Ramis and colleagues (2013) conducted an Australia-focused review of a topic previously covered by a multi-context review (Lloyd Jones, 2005), making observations on the relative contribution of each review.

Qualitative Evidence Synthesis extend the contribution of research evidence beyond what works to include feasibility, appropriateness, meaningfulness and perceived effectiveness. Single-context QESs help us to understand how changes within a specific context (for example over time or against a diverse political backdrop) have an impact on an intervention. Multi-context QESs help us gain an understanding of how appropriateness, meaningfulness and perceived effectiveness of an intervention differ across contexts (even when contemporaneous or superficially similar; Emmers, Bekkering, & Hannes, 2015). Recent guidance suggests that deciding whether a QES should target a single context or multiple contexts forms part of an initial step of 'clarify the review question and context'. When designing any review and developing the protocol, a review team should decide which contextual factors are important for the review question (Noyes et al., 2018). Among seven considerations that determine which QES method to choose, embodied in the RETREAT mnemonic, the decision between single- and multi-context QES is informed by the Research question (R), the Audience and purpose (A) and the Type of data (T) (Booth et al., 2018).

This distinction between single-context and multi-context QES cannot be reduced to binary terms. For example, Ramis et al. (2013) cite a review of home care for HIV in Africa as an example of a single-context review where 'Africa' represents a geographical entity with a rich diversity of contexts. Conversely, the multi-context QES (Lloyd Jones, 2005), against which the same authors contrasted their QES of the advanced nurse practitioner role in Australia, limited inclusion to English language reports. The single-context/multi-context decision is enacted on a spectrum and constitutes one of degree rather than extreme; this decision exemplifies a wider issue for systematic reviews, namely the debate on whether to 'lump' or 'split' (Weir, Grimshaw, Mayhew, & Fergusson, 2012).

Our collective experience from reviewing qualitative research from Kenya and Nigeria and from methodological work with international Cochrane, GRADE-CERQual and World Health Organization teams suggests that the implications of conducting single- or multi-context reviews are poorly researched and, consequently, poorly understood. While there is little doubt that both types of QES hold great potential, such a lack of understanding may result in inappropriate or limited use of qualitative evidence in decision-making. This discussion paper

and supporting case studies, offer insights into the relative contribution from single- and multi-context QESs with a view to guiding future decisions on commissioning and using such syntheses, particularly when conducted in resource-limited settings. In considering geographical variation, however, we unearth issues that have an impact on the scope of any QES that restricts inclusion by other relevance criteria.

1.2. **Data sources**

This paper presents insights from three QESs, one a multi-context review of attitudes to facility-based delivery performed by a commissioned international review team (Bohren et al., 2014) and the others country-specific syntheses performed by Masters in Public Health (MPH) students in association with an experienced academic supervisor (Mshelia, Analo, & Booth, 2019; Nyakang'o & Booth, 2018; Table 1). In 2012 an international team of systematic reviewers was commissioned by the World Health Organization to 'systematically synthesiz[e] qualitative evidence related to women's perceived facilitators and barriers to accessing facility-based deliveries in low- and middle-income countries (LMICs)'. Searches were conducted in 2012, updated in 2013 and covered PubMed and CINAHL complemented by the WHO Global Health Library, Cochrane Library, DARE, Google Scholar, CRD, OpenGrey and EThOs for grey literature and unpublished reports. The team also contacted researchers to help identify studies. Reference lists of all included studies were hand searched for further relevant studies. Thirty-four studies (2001–2013) were identified from 17 countries with many LMICs not yielding any evidence. This multi-context QES was published in September 2014 (Bohren et al., 2014).

Table 1 - Sources for the multi-context single-context review comparison

	Multi-context QES (Bohren et al., 2014)	**Rural Kenya QES (Nyakang'o & Booth, 2018)**	**Nigeria QES (Mshelia et al., 2019)**
No. of included studies	34 studies	16 studies (17 papers)	16 studies
Countries included	17 LMICs [Africa (8 countries; Ethiopia [4 studies], Ghana, Kenya [4], Malawi, Nigeria [2], Sierra Leone, Tanzania [5], Uganda), Asia (7 countries; Bangladesh [6], China, India [3], Indonesia, Philippines, Timor-Leste, Vietnam), South America (Bolivia), and the Middle East (Iran)].	Kenya only	Nigeria only
Dates searched	n.d.(2001)–April 2013	n.d.(2002)–August 2016	n.d.(2006)–Nov 2017
No. of Kenya studies	4 (2 rural–2012, 2012)	16 rural studies	Not applicable
No. of Nigeria studies	2 (2006, 2012)	Not applicable	16 studies
Open access	15 (44%)	14 (82%)	11 (69%)
Predatory	1 (3%)	2 (12%)	2 (12.5%)
Theses/non-journals	One MSc [Ethiopia] (3%)	One MSc + 3 reports (24%)	2 PhD + 1 MSc (19%)

In 2015 a Kenyan MPH student (SBN) at the School of Health and Related Research (ScHARR) conducted a systematic review of barriers and facilitators to facility-based delivery in rural Kenya. Subsequently, this student assignment was upgraded for publication through update searches (2002–2016) and verification of review procedures and data by an experienced second reviewer (AB). Sources included MEDLINE, EMBASE, PsycINFO, POPLINE, CINAHL, Web of Science and ProQuest supported by grey literature searching and extensive citation chaining and checking of reference lists. The manuscript was submitted to a peer-reviewed journal and published in December 2018 (Nyakang'o & Booth, 2018).

Finally, two Nigerian students (SM and CA) from the 2016 to 2017 MPH cohort at ScHARR independently chose to conduct a systematic review on factors affecting the choice of facility-based birth in Nigeria. Their collective searches covered CINAHL, Web of Knowledge, MEDLINE, EMBASE. MedNar and the Nigeria Federal Ministry of Health (NFMOH) websites using keywords for grey literature, were conducted between March and May 2017. In November 2018 a verification search by a qualified information specialist (AB), involving citation searches for 10 identified studies, was conducted to update and extend the original search results (2006–2017). The manuscript was submitted for peer review in March 2019.

2. METHODS

2.1. Data collection

Key characteristics of the three syntheses were extracted to tables. Descriptive variables included: number of Included Studies, Dates Searched, number of Studies by Country. Other variables included whether the source journal of each included study was available via free open access (by following hyperlinks) and whether the journal is considered ‘predatory’ (using Lazy Scholar - http://www.lazyscholar.org/). Numbers of included non-journal publications (e.g., Theses/dissertations) were also documented. Details of the methods of each review were extracted against the SALSA framework (Search-AppraisaL-Synthesis-Analysis; Booth, Sutton, & Papaioannou, 2016; Table 2). Finally, qualitative findings from each synthesis were examined for conceptual or contextual contributions.

Table 2 - Characteristics of each synthesis according to key review stages (SALSA)

	Multi-context review (Bohren et al., 2014)	**Rural Kenya review (Nyakang'o & Booth, 2018)**	**Nigeria review (Mshelia et al., 2019)**
Search	PubMed, CINAHL and grey literature databases	MEDLINE, EMBASE, PsycINFO, POPLINE, CINAHL, Web of Science, ProQuest), grey literature search, citation chaining; checking reference lists	CINAHL, Web of Knowledge, MEDLINE, EMBASE. MedNar and Nigeria Federal Ministry of Health (NFMOH) websites for grey literature. Citation searching; Google Scholar
AppraisaL	CASP for qualitative (Critical Appraisal Skills Programme, 2016)	CASP for qualitative (Critical Appraisal Skills Programme, 2016)	CASP for qualitative (Critical Appraisal Skills Programme, 2016)
Synthesis	Line by line thematic synthesis, elements of meta-ethnography	Best fit framework synthesis using Nigerian primary study framework (Makowiecka, 2016)	Best fit framework synthesis using Bohren et al. (2014) review framework
Analysis	GRADE-CERQual	Predatory journals	GRADE-CERQual (not included in the published version)

2.2. **Data analysis**

Data were compared across the three syntheses. Emerging patterns were identified from the Tables and Findings. Implications for the final synthesis product were considered and tentative conclusions suggested. Strengths and limitations of multi-context and single-context reviews were explored.

3. **RESULTS**

3.1. **Characteristics of Included studies**

The multi-context QES included 34 studies from 17 countries (Table 1), an average of two studies per country. The multi-context review team had identified four studies from Kenya (two were rural and therefore included in the Kenya review) and two studies from Nigeria (both included in the Nigeria review). In contrast both the rural Kenya and the Nigeria QESs included 16 studies, reported in 17 and 16 papers respectively. By excluding urban studies, the Kenyan review applied tighter inclusion criteria than the multi-context QES. Even excluding two of four studies from the multi-context review the Kenyan review identified four times as many Kenyan studies as the multi-context QES. None of the reviews specified a start date for the included studies although the earliest studies for the multi-context and Kenyan studies dated from the early 2000s (2001; 2002) with the first Nigerian study appearing approximately five years later.

Just under half (44%) of the included studies in the multi-context review were available open access with the corresponding figures for Kenya (82%) and Nigeria (69%) being markedly higher. This illustrates that country-specific syntheses become more feasible as the open access movement increases article availability. Significantly, the rates of predatory journals for the country-specific reviews were similar (at 12%–12.5%) while the older multi-context QES only included one predatory article (3%). Although the multi-context QES stated an intention to include theses this translated to one Ethiopian MSc dissertation in comparison to two PhDs and one MSc for Nigeria and one MSc dissertation and three non-journal reports in the Kenyan review. This suggests that coverage of theses and dissertations is more constrained by limited time for supplementary searching than by the non-availability of eligible studies. Interestingly, two Nigerian academic outputs originated from migrant scholars registered in South African and United States institutions.

3.2. **Characteristics of synthesis methods**

All three syntheses involved searching PubMed/MEDLINE and CINAHL. These are widely acknowledged as high yield sources for international qualitative health research (Booth, 2016). The two country-specific QESs searched a larger number of databases (two or four more databases than the multi-context QES). In addition, the Nigerian QES searched country-specific (MedNar and NFMOH) sources. More significant, however, was the effort put into complementary search techniques with both country-specific QESs following up identified items through extensive citation searching and reference checking (Table 2). All three

syntheses used the CASP checklist for assessing qualitative research (Critical Appraisal Skills Programme, 2016). This consistently figures as the most reported tool used for QESs (Dalton, Booth, Noyes, & Sowden, 2017).

The multi-context QES used thematic synthesis, one of the most accessible forms of synthesis and well-suited to summarizing large numbers of studies (Booth et al., 2018). The team extended this method by introducing elements of meta-ethnography to produce higher level (‘third order’) overarching constructs. Both country-specific QES used framework synthesis; a method that reduces the burden of theme generation by using themes from an existing published framework (Booth et al., 2018). The Kenyan QES used a framework from a primary study from Nigeria (Makowiecka, 2016) while the Nigerian QES drew on the framework produced for the multi-context QES (Bohren et al., 2014). Choice of synthesis methods may reflect that this topic is well-conceptualized or, equally, may betray the academic supervisor's familiarity with the best fit framework method (Carroll, Booth, & Cooper, 2011).

Both the multi-context and Nigerian QESs prepared findings that were suitable for analysis in the GRADE-CERQual approach (Lewin et al., 2015), keeping a strong policy and practice lens. The Kenyan QES pursued a supplementary methodological analysis of included papers assessing whether contributing journals were ‘predatory’.

3.3. Qualitative characteristics of the included syntheses

Of particular interest is how each type of synthesis contributes to overall findings. As alluded to above, the multi-context QES generated a framework that could readily translate to individual countries, highlighting commonality across multiple contexts and thus informing international (e.g., WHO) policy. In some cases, the phenomenon of interest was perceived similarly by women regardless of context. For example, the sudden and unpredictable onset of labour served to disrupt even the best-laid plans for place of birth. In other cases, differences were of detail or degree. So, dignity and privacy were common to most contexts although contexts differed in whether or not these issues presented in distinctively physical, rather than psychological or ethical, ways:

> "Delivery rooms contained several beds with no partitions between them and if curtains were available, they were tattered or not closed properly. Windows were broken and lacked curtains to shield women from passers-by" (Bohren et al., 2017; p. 9)

Country-specific findings helped to identify contextual nuances in a more overarching common theme—for example, ‘lack of transportation’ varied according to the form of transport that was most prevalent, whether taxi, private motorcycle etcetera.

However, probably, the most important contextual differences relate to health system characteristics or to personal values and belief systems. For example, Kenya had introduced a voucher system to encourage use of health facilities. Reported experience can offer unique insights on the voucher system. Furthermore, if a multi-context team is unaware of the voucher system they could mistranslate qualitative findings to other contexts. Recognizing such variation may offer additional opportunities to compare findings across multiple countries that have introduced a voucher system.

With regard to belief systems different religious beliefs e.g., Christian, Islam and traditional religious practices have an impact on women's choices of place of birth. More importantly, these systems are not necessarily mutually exclusive so a Christian-Traditional belief may differ markedly from an Islam-Traditional belief and, in turn, from an exclusively traditional belief:

> "…an Islamic religious rite that believes cure comes when you write down a prayer, put it in water and give the ill person to drink". (Okonofua et al., 2017)
>
> "Once something is family tradition, you just have to follow it as well. In my husband's house the custom is to give birth where the mother in-law is, it's like that with most people and you can't change it...." (Love, 2013)

4. DISCUSSION

4.1. Multi-context versus single-context reviews

The multi-context review covered both rural and urban contexts and included equal numbers of Kenyan studies of each (rural = 2; urban = 2). Based on this assumed parity of rural/urban reports, a Kenya-only QES covering both contexts, as opposed to our actual QES of 16 rural-only Kenyan studies, could have achieved a similar number of included qualitative studies (i.e., 2 × 16) to the total for all LMIC studies included in the multi-context review (N = 34). More conservatively, the Nigerian QES included eight times as many studies from Nigeria (N = 16) as the multi-context QES (N = 2). If an 8: 1 ratio of includable studies can be extrapolated across each included country, then the multi-context QES would need to synthesize not 34 but over 200 studies. However, two factors moderate these findings. First, the Kenya- and Nigeria- specific QESs were conducted more recently and therefore accessed three and a half/four and a half more years literature respectively. Qualitative evidence is becoming more prevalent across LMIC research and decision-making. Second, a decision-maker will be interested in additional insights, not additional studies per se. Theoretical saturation may mean that themes to which newly identified studies contribute are already well-supported by existing data. A decision-maker may welcome recent studies, that access a contemporary context, as more useful than older studies. In addition, a missed study from a country not represented at all in a multi-context QES will be of more value in decision-making than an additional study from a country well-represented in the QES.

4.2. **Considerations when determining multi-context versus single-context QESs**

Whereas, superficially, many advantages associated with resources favour multi-context QESs this over-simplifies the available choice (Table 3). Arguments for efficiency and scientific rigour now contend with cultural sensitivity and improved coverage and currency but the benefits are not uni-directional. Volunteer unfunded student labour, motivated by personal interest in the chosen country and a desire to publish, represents a feasible response to the superficial country coverage necessitated by the tight delivery timescales of a funded multi-context QES. Access to synthesis expertise may address concerns about the isolation and inexperience of the single-context reviewer. In exchange, the student, with their familiarity with the focal health system, may find themselves better positioned when interpreting context-sensitive findings than a generic international team. However, such considerations speak more to the background and motivations of the reviewer rather than to the methodological advantages of the single-context QES per se.

Table 3 - Comparison of Single-context and Multi-context QESs

Single-context QES	**Multi-Context QES**
Strengths	Strengths
Facilitate understanding of the appropriateness, meaningfulness and perceived effectiveness of an intervention	Facilitate understanding of how appropriateness, meaningfulness and perceived effectiveness of an intervention differ across contexts
Undertaken by review teams with commitment to review issues	Review team may operate as an 'honest broker' handling data impartially
Isolating local contextual factors from universal characteristics may help country governments to balance national and international priorities	Offer transferable patterns of findings across geopolitical barriers with potential for standardized responses, policies at a global level, and monitoring and evaluation
Locality based stakeholders may engage more easily with synthesis findings	Some findings likely to resonate with the personal experience of stakeholders from multiple contexts
Facilitate contextual sensitivity	Facilitate transcultural modification and trans-contextual adaptation
Capitalize on homogeneity of the 'case definition'	Reveal contextual variation in how phenomenon of interest is conceptualized and/or operationalized
Give individual countries or populations a 'voice' in the accompanying policy discourse	Advance programmes for countries without an evidence base or review capacity infrastructure
Support and corroborate findings from multi-context reviews	Identify gaps in contexts to benefit from further study identification or primary research

Single-context QES	**Multi-Context QES**
Reveal disconfirming cases that facilitate a more nuanced understanding	
Ensure that available evidence for a country is used.	
Limitations	Limitations
Require local and regional topic and methodological expertise	Produced by review teams who lack local and regional contextual knowledge
Findings may prove less generalizable to other settings	Produce findings that are too general to be useful for decision-makers in their specific context
Lack insight on wider significance and the ‘big picture’	Suppress the ‘voice’ of individual countries or populations through an ‘averaging’ effect
Review teams influenced by their prior commitments and values	Review teams may ‘fit’ context-sensitive data to their own interpretation
Definitions of what constitutes ‘relevant context’ are contested and review-specific	Definitions of what constitutes ‘relevant context’ are contested and review-specific
	Blur important distinctions in definitions or interpretations across studies and contexts
	Result in specific countries being missed or overlooked

Published search strategies, review methods and frameworks equip the single-context reviewer to 'stand on the shoulders' of a preceding multi-context team. In return, future multi-context QESs may draw on existing single-context syntheses whether this simply facilitates study identification or contributes to conceptual clarity or contextual completeness. In a similar way future single-context QES updates, building on pre-existing methods and included studies may become more efficient and feasible.

4.2.1. **Pragmatic considerations**

For the decision-maker, the trade-off between relevance and rigour is critical. Basing decisions on incomplete or inaccurate qualitative information may result in inappropriate action or inaction, contribute to suboptimal implementation and even cause harm. In reality, even country-specific QES are multi-contextual and inclusion of evidence from otherwise neglected communities may improve cultural sensitivity and address equity concerns. However, country-specific QESs are not cheap and the decision-maker may need to trade the value of intervention against the value of more complete information. Linking country-specific QESs to a 'parent' multi-context QES, where decisions on scope, search strategy design, quality assessment tools and analytical framework have already been made, may enhance scientific rigour and speed up the final output. Local capacity to conduct QESs may be enhanced by partnerships with an international team of methodologists optimizing contextual sensitivity with scientific rigour. Furthermore, such partnerships facilitate local research capacity building.

Our Kenyan QES (Nyakang'o & Booth, 2018) confirmed many factors that are similarly explored in the multi-context QES (Bohren et al., 2014); distrust of facility-based birth, infrastructure problems and the need for more information on the characteristics and potential benefits of the facilities. In essence the single-context QES offers 'triangulation', particularly as the small number of studies that are present in both syntheses (only 2 from 16) means that we are not 'double counting'. Further single-context QESs, such as the Nigerian QES, strengthen our confidence in common findings while yielding, through constant comparison, valuable nuances and contextual differences for further exploration.

The Kenyan QES (Nyakang'o & Booth, 2018) allowed us to detect specific differences in emphasis. Cultural barriers such as the belief that home is the 'natural' place for a normal birth, that hospitals are inflexible and do not accommodate cultural practices, that preparation for birth is tempting fate and that 'whatever happens, happens' emphasize that a single intervention or programme is unlikely to offer a 'fix' across multiple contexts.

Practically, several academic trends are combining to make country-specific QESs and indeed QESs in general, more feasible. The open access movement means that resource implications for access to published materials are becoming less prohibitive. Furthermore, registration of indigenous students in foreign academic institutions may improve the

discoverability of qualitative research. The institutional repository movement has also increased the availability of PhDs and Masters theses that potentially offer more complete accounts of phenomena compared with the word constraints of journal articles. As such items become increasingly discoverable and accessible the representativeness of the cumulative body of within-country evidence is likely to increase. However, these trends are not overwhelmingly positive as the growth and increased visibility of predatory journals contributes to the risk of including poor-quality data in the QES.

4.2.2. **Conceptual considerations**

Four characteristics, identified in the context of the GRADE-CERQual project (Lewin et al., 2015), were applied generically to compare the multi-context and single-context QESs. These components are:

- Methodological limitations
- Coherence
- Adequacy
- Relevance

Methodological limitations

Methodological limitations (Munthe-Kaas et al., 2018) operate at two levels; for the synthesis product itself and for the included studies. With regard to the synthesis, multi-context reviews are typically supported by a team of experienced researchers resourced with time, funding and person-power. In contrast, single-context reviews, as exemplified in this paper, are time-limited academic assignments typically conducted as a research training exercise by single reviewers with no prior QES experience. However, this contrast is not as binary as might be supposed. While the overall time-envelope enjoyed by the multi-context research team may be more generous than for the single-context reviewers this translates to limited time for study identification, particularly when split across multiple included countries. Students can save time by using the existing search strategy (developed in association with two information specialists) and thus refocus their efforts on sifting results from grey literature and country-specific sources such as repositories. Furthermore, when single-reviewer academic assignments are upgraded typically this may include peer review of search strategies, replication and updating of searches, checking of a sample of titles and abstracts for eligibility, checking of data extractions and quality assessment and independent verification of identified themes.

Looking beyond the major databases and indexed journals or included studies may lower the quality threshold of included studies. Relevant studies from predatory journals are more likely to be identified and regional journals may have more sparse editorial resources and expertise compared with high-profile international journals. In addition, including theses may lower the quality of included studies and, working in more generous word limits, may also increase the

quantity of included data. Conversely, including more studies from a target country may broaden the diversity of included localities and populations adding richness and nuance to the overall synthesis.

Adequacy

Both multi-context and single-context QESs require that the review team identifies adequate data to address the review question (Glenton et al., 2018). A multi-context QES must draw on evidence across multiple contexts targeted by the review (breadth) e.g., Africa, South America and South East Asia for Low- and Middle-Income Countries. Single-context QESs need to identify as rich a dataset as resources allow (depth) e.g., local and regional journals, theses from institutional repositories, unpublished process evaluations etcetera. Specifying a context-specific review question (e.g., geographical limits) typically influences selection of appropriate sources (Harris et al., 2018; Stansfield, Kavanagh, Rees, Gomersall, & Thomas, 2012). Hannes and Harden (2011) characterize the data required for a single-context review as follows:

> "… the use of a selective search with a focus on studies (both published and unpubl.) that address a similar geographical, sociocultural, political, historical, economical, health care, linguistic, or other context relevant to the review"

Coherence

A further consideration is how context has an impact on the coherence of a set of studies (Colvin et al., 2018). Potentially, selecting studies from a shared single context, whether sharing time or space, will result in homogeneous findings, making it easier to identify common patterns or shared characteristics. For example, focusing not simply on qualitative research studies from Kenya but on studies from rural Kenya makes it more likely that the pivotal influence of transportation and distance from facilities will be recognized. On the other hand, selecting studies from a multi-context offers diverse observations of a phenomenon and allows the review team to explore multiple areas of variation. For example, 'Influence of others' may extend beyond the husband to cultures where a senior relative or patriarch exerts such an influence.

Potentially, the decision on whether to include specific languages has an impact on coherence. Unlike geographical or temporal contextual decisions which tend to have a conceptual basis, the decision to include or exclude particular languages may mask systematic biases. In a country, such as the Netherlands, where Dutch is an indigenous language, but English is a language of scientific communication (Verhage & Boels, 2017), inclusion of Dutch qualitative studies may yield findings based on data collected by solo PhD students or from lower impact/prestige journals. In a dual language country, such as Canada, inclusion of French language studies would increase the number of studies from a particular province e.g., Quebec. Either situation could generate findings that differ substantively from

those from the larger body of English language studies. The full impact of language decisions on QESs remains to be ~~fully~~ explored. Translating themes across languages adds additional complexity to an already challenging task of translating themes across studies.

Relevance

Contextual changes over time in legislation, policies and institutional processes all have an impact on whether and how an intervention works and under what circumstances (Pfadenhauer et al., 2017). In essence, date restrictions in inclusion and exclusion criteria for a review represent de facto decisions on the extent to which a review will include multiple or single contexts. Typically, however issues of context are enacted in geographical rather than temporal terms (Noyes et al., 2018); where practices or context differ substantially across countries, a review team may restrict reviews to studies from a single country or countries which are, at least superficially, similar in respect of the phenomenon of interest (e.g., polio in Afghanistan, Nigeria or Pakistan) or their principal study characteristics (Crisp, 2015). As a consequence, however, findings from such a review may prove less generalizable to other settings. On the other hand, reviews that draw on data from multiple contexts may produce findings that are too general to be useful for decision-makers in their specific context.

A further consideration is how the population or setting determines the context of the review. In their QES protocol on female genital mutilation, Evans and colleagues (2017) observe how reviews had taken a ‘lumping’ approach by bringing together studies from high- and low-income countries. As a result, very different issues had surfaced with resource issues being a key differentiator. A focus on health systems or the attitudes of health providers supports a strong case for a single-context QES. If, however, the emphasis is on the shared experience of the women and the psychological effects of the procedure then this may justify a multi-context QES. Definitions of what constitutes ‘relevant context’ are contested and review-specific and should be informed by the ‘ambition’ or ‘sphere of influence’ of each individual review (Harris et al., 2018).

Finally, a review team should consider the intended audience for the synthesis findings. If stakeholders represent a narrow context and yet the literature encompasses multiple contexts then stakeholders may find it challenging to engage with many of the findings. Alternatively, stakeholders from diverse contexts may find it difficult to relate to findings that are largely drawn from a single context or to findings from contexts not represented by their collective experience (De Buck, Vandekerckhove, & Hannes, 2018). For example, findings from a multi-context QES which relate to a lack of curtains around beds or health staff treating women with disrespect may not resonate with many (or indeed, any) of a broad stakeholder group (Bohren et al., 2014). Matching the target population(s) to the study population(s) is key to the relevance of the synthesis (Noyes et al., 2018).

4.3. Implications for future QES activities

As identified above, advantages accrue from operating in a 'mixed synthesis economy' with single-context QESs alongside multi-context QESs favoured by organizations such as the World Health Organization. This mixed economy would facilitate transcultural modification and trans-contextual adaptation (Sleijpen, Boeije, Kleber, & Mooren, 2016). In each case, a review team would consider the trade-off between added information value, in terms of unique or nuanced findings from the single-context QES, and the added resource required.

4.3.1. Implications for nursing

Nursing represents a context-sensitive profession that engages with an internationally generated evidence base. Those commissioning and funding systematic reviews of nursing must decide whether their money is best spent on single-context or multi-context reviews. Similarly, those reading and acting on such reviews need to judge the extent to which findings from other countries apply to their own context. Specifically, nurses need to recognize that certain review questions (e.g., relating to health system factors and cultural factors) may be more context-sensitive than others (e.g., perceptions of a condition or a treatment). Interventions that rely on biological mechanisms may demonstrate less variability than those that engage with psychosocial or behavioural mechanisms. Phenomena that operate in controlled, closed systems (e.g., an operating theatre) are less likely to be context-sensitive than those in a comparably semi-controlled health organization which, in turn will be less context-sensitive than those in an 'open' community or public health system (Booth et al., 2019). This discussion paper seeks to help nurses decide how best to apply findings from QES and systematic reviews more generally, to their own decision-making context.

4.3.2. Limitations of the analysis

Ideally, when comparing systematic reviews, all three reviews would be strictly contemporaneous. In practice, resources seldom allow such a comparison; opportunistic samples offer an alternative. The multi-context QES was financially supported but was the earliest to be conducted. The Kenyan QES focused on rural studies, excluding two urban Kenyan studies from the multi-context QES. The Nigerian QES was comparable in scope to the multi-context QES but was conducted five and a half years later. A multi-context QES, privileging breadth, is being compared with two single-context reviews that privilege depth. The authors of the single-context QESs are incentivized to identify studies not included in the multi-context QES and were given a 'head start' of at least two included studies and potential follow-up citation searches.

5. CONCLUSION

This article, supported by illustrative case studies explores the value of multi-context and single-context QESs. Given examples focus on geographical context but these issues apply equally to time-based contexts or, indeed, to any multiple—versus single-context distinctions (e.g., all religions vs. Islam only; all types of workers vs. blue-collar workers; all socio-

economic groups vs. deprived households, etcetera). Both approaches have merit. Conceptual and practical considerations should inform any chosen approach. Above all, qualitative synthesis should operate in a 'mixed synthesis economy' that combines context-specific QESs with multi-context QESs.

Although this discussion paper focuses on the overall review these issues are inextricable from other important decisions on relevance (e.g., lumping and splitting for inclusion/exclusion criteria and whether specific findings only apply to subgroups). These considerations are not specific to QESs. The same issues recur when integrating quantitative and qualitative evidence; a meaningful difference in outcome from a quantitative subgroup analysis may require us to re-examine qualitative evidence for that subgroup. Similarly, a critical difference in opinion revealed by qualitative synthesis may suggest a previously unplanned quantitative subgroup analysis. The methodological complexity associated with context accompanies the inexorable progress of synthesis methods from answering 'what works?' to 'what happens?'

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CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

AUTHOR CONTRIBUTIONS

AB, SM, CVA, and SBN made substantial contributions to the conception and design, acquisition of data, and analysis and interpretation of data; AB, SM, CVA, and SBN were involved in drafting the manuscript and revising it critically for important intellectual content; AB, SM, CVA, and SBN gave final approval of the version to be published. Each author participated sufficiently in the work to take public responsibility for appropriate portions of the content; AB agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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