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Review article

Women's maternity care needs and related service models in rural areas: A comprehensive systematic review of qualitative evidence

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ABSTRACT

Background: Understanding the needs of rural women in maternity care and service models available to them is significant for the development of effective policies and the sustainability of rural communities. Nevertheless, no systematic review of studies addressing these needs has been conducted.
Objectives: To synthesise the best available evidence on the experiences of women's needs in maternity care and existing service models in rural areas.
Methods: Literature search of ten electronic databases, digital theses, and reference lists of relevant studies applying inclusion/exclusion criteria was conducted. Selected papers were assessed using standardised critical appraisal instruments from JBI-QARI. Data extracted from these studies were synthesised using thematic synthesis.
Findings: 12 studies met the inclusion criteria. There were three main themes and several sub-themes identified. A comprehensive set of the maternity care expectations of rural women was reported in this review including safety (7), continuity of care (6) and quality of care (6), and informed choices needs (4). In addition, challenges in accessing maternity services also emerged from the literature such as access (6), risk of travelling (9) and associated cost of travel (9). Four models of maternity care examined in the literature were medically led care (5), GP-led care (4), midwifery-led care (7) and home birth (6).
Conclusion: The systematic review demonstrates the importance of including well-conducted qualitative studies in informing the development of evidence-based policies to address women's maternity care needs and inform service models. Synthesising the findings from qualitative studies offers important insight for informing effective public health policy.

1. Introduction

In the last few decades, rural communities in developed countries such as England,[5] Canada[6] and Australia[7] have experienced the closure of obstetric services, forcing thousands of pregnant women to travel long distances to a centralised unit to access maternal care.[7] The decision to close small maternity units was due to the shortage of health-care professionals, safety and quality considerations, and cost considerations.[7,8] However, some researchers suggest that the closure of local rural maternity care services is associated with poorer outcomes for women and infants.[9,10] Research[11] found a strong association between lower operative intervention at birth and the size of hospital. Particularly, the likelihood of neonatal death was significantly less in maternity hospitals with less than 2000 births per annum over the three year time period.[11] In terms of cost consideration, health authorities and health departments may anticipate savings through closing rural maternity units, however the Rural Doctors Association of Australia[7] argues that this is not cost-effective because of a number of reasons. These reasons include: delivery costs which are usually lower in smaller hospitals; closure resulting in cost shifting from the health budget to rural families and communities in the form of transport, accommodation, loss of income due to absence from a farm or other employment and spending diverted from local businesses; and closure affecting the sustainability of the community. In addition, the larger hospitals where mothers are forced to travel to give birth incur increased costs, often without commensurate increases in human or financial resources. Similarly, ambulance services face higher

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costs, workloads and responsibilities, frequently without the increased funds, staff or training needed to cover them. Klein et al.[10] emphasise that 'cost savings may prove elusive because the decision to close hospitals in smaller communities carries with it health and economic risks' (p. 120).

The loss of maternity services in rural areas negatively affects not only the childbirth experience and the well-being of mothers and their babies but also affects the sustainability of rural communities. Research has demonstrated various adverse effects associated with travel for rural parturient women including stress, financial loss, separation from spouse, children and community, and lack of continuity of care.[3,4,14] Furthermore, the closure of maternity services has been linked with adverse outcomes for mothers and babies. In particular, rural parturient women who are required to travel for care have been found to have a greater proportion of complicated deliveries, higher rates of prematurity, higher costs of neonatal care[15] and more likely to undergo induction of labour[16] than women who did not have to travel. It is suggested that these negative outcomes may be a consequence of the increased stress – physiological and psychological – associated with travel and parturition in unfamiliar settings interfering with the normal process of labour. Finally the absence of maternity services in rural areas affects the sustainability of rural communities[10] as Klein et al.[10] recognised that maternity and newborn care are lynchpins for sustainable communities medically, socially and economically.

Qualitative research on women's needs in maternity care and available model of care in rural areas has addressed efforts to improve access and outcomes for women and babies. Despite differing definitions of rurality, most countries categorise location in terms of distance from cities and population sparsity. Thus, it is expected that rural definitions are presented and clarified in each study. This review will include studies conducted only in developed countries, as these countries have experienced the same issues in rural areas such as shortages of health workforce and closure of small maternity units, and have comparable health care system. Developing countries have different issues and so were not included in this review.

The review is conducted in the context of the increasing closure of rural maternity services. The objective of this review is to synthesise the best available evidence on the experiences of women's needs in maternity care and existing service models in rural areas. Specifically, the review questions are

- What are maternity care needs for women in rural areas?
- What are women's experiences of existing models of maternity care in rural areas?

2. Methods

The inclusion of qualitative research in systematic review enables the integration of life experiences into informing policy and practice.[17] This review involves identifying key concepts from one study and recognising the same concepts in another study focussed on the assessment of women's needs in maternity care and the existing service models in rural areas of developed countries.

2.1. Inclusion criteria

The review focuses on the whole period of maternal care including antenatal care, birthing and early postnatal care. Thus, the inclusion criteria for this review are women experiencing antenatal and/or, intrapartum and/or postnatal care in rural areas in developed countries. The review considered qualitative study designs including ethnography, grounded theory, action research, and case studies.

2.2. Search strategy

An initial limited search of MEDLINE and CINAHL was undertaken followed by analysis of the text words contained in the title and abstract, and of the index terms used to describe each article. Searches of PubMed, Summon search, Mednar, ProQuest, Proquest theses and dissertations-Health and Society, HealthInsite were also conducted. The search for unpublished studies included Digital theses and ePrint repository.

A second search using all identified keywords and index terms was then undertaken across all included databases. The significant changes to obstetric services in rural areas of many developed countries in the last two decades resulted in a decision to search for publications in the past 20 years. The following key words were used: *maternity experience, maternity needs, rural areas, models of care, continuity of care, access to maternity care, childbirth location, maternity choices, workforce shortages, rural isolation, rural communities, and sustainable maternity models of care*. Finally, the reference list of all identified reports and articles was scanned and searched for additional studies.

Searching of full text articles against inclusion criteria, assessment of methodological quality, data extraction and data synthesis were conducted by two reviewers/authors. Initial search of titles and abstracts was done by the first author of this review and was double checked by other authors to ensure consistency between reviewers.

2.3. Assessment of methodological quality

Qualitative papers selected for retrieval were assessed by two authors for methodological validity prior to inclusion in the review using the standardised Joanna Briggs Institute Qualitative Assessment and Review Instrument (JBI-QARI).[18] Any disagreements that arose between the reviewers were resolved through discussion, or with a third reviewer. Each study was assessed according to ten criteria designed to assist with judgement on which study findings were an accurate representation of maternity care needs and its service models. A final assessment sorted studies into one of three categories on the basis of quality: high quality (those meeting eight or more criteria), medium quality (those meeting between five and seven criteria), and low quality (those meeting fewer than five criteria). All identified low quality studies were excluded in the review. Table 2 presents the results of the quality assessment of studies reviewed.

2.4. Data extraction

Qualitative data were extracted from papers included in the review using the standardised data extraction tool from JBI-QARI.[18] The data extracted included specific details about the populations, study methods and outcomes of significance to the review question and specific objectives. The findings of qualitative studies were identified from the results sections of the papers and were entered into JBI-QARI for data analysis.

2.5. Data synthesis

Qualitative papers, where possible were pooled using JBI-QARI.[18] This involved the aggregation or synthesis of conclusions to generate a set of statements which represent that aggregation through assembling and categorising these conclusions on the basis of similarity in meaning.

The systematic review protocol[19] was reviewed by two external reviewers and published on the JBI library.