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What do we hope to achieve through doctoral midwifery research education?

Key words: Doctoral midwifery research, education, aim of doctoral research, training, philosophy, evidence-based midwifery

At the recent launch of our English branch of the Doctoral Midwifery Research Society in partnership with the RCM, I shared some thoughts with the membership about the discussions surrounding the future of doctoral research education and made reference to the salutary thought of prescribed research in a future where the world statistics on doctorally prepared researchers begin to emerge. With this global data comes a picture demonstrating huge variation in what actually constitutes a PhD or, in some settings, a taught doctorate. The take-home message for us is to be ready for change and be ready for the challenge to state what we as midwives consider doctoral education or doctoral training ought to be: is doctoral training education that is enlightening, creative, develops a knowledgeable thinker and values intuitiveness or is it a narrow prescription of a person who is trained to conform and be competent in a pre-defined skill set in applying set rules and regulations from a position of philosophical detachment? It seems like doctoral education has evolved to become more of the doctoral research training and less of the knowledgeable and intuitive thinker. Moving our discussion beyond that of semantics, we must perceive the value and purpose of research education as that which has immense implications for the future of midwifery research.

The very way that we talk about PhDs can distinguish between education that is 'fit for purpose' and education that is inherently good, challenging and of intrinsic value to the person doing the research and society. 'Fit for purpose' is the common phrase used by many to describe the expectation that modern research will yield valuable data for public health research and many midwifery research leaders will steer students to undertake research that has been identified and targeted as important by policy-makers and strategists. The purpose is to fulfil a need and that may be institutional, societal and even personal or a combination. However stated, the aim of this type of education is to produce in the person a specified set of skills like we see in our taught doctorate programmes where the achievement of specified goals are stated, and the accumulation of credits to reach the stated level is the goal of the student and the institution. This approach will naturally lead to a cadre of trained doctoral midwives who have a pre-specified skill set and who are fit for clinical or public research. Is this the aim of midwifery research at doctoral level... to train instead of educate? Can and should we be satisfied with training only?

The natural continuation of training is indeed a comfort zone for many midwives whose experience has been the regimented and prescribed training, fit for a specific purpose and a journey, in which extrinsic needs of the organisation are paramount. In addition, if one undertakes doctoral 'training' as opposed to doctoral 'education' and applies for a specific or advertised doctorate, the parameters are already in place and the person is only challenged to follow the prescribed

path to completion. From this perspective, one could argue that it is possible not to have any real philosophical skills in conceptualisation and the plain hard work of growing an idea from concept to reality.

For those who take this path, the glory of the title 'Dr' may become a burden, as the expectations about the abilities of the student to write proposals from scratch may be an insurmountable obstacle. Another perspective worth thinking about is the collection of academic credits from completed doctoral education modules in taught courses and the accumulation of fragments of programmes pre-determined by those in authority as being key to the award of the doctorate. These credit-bearing modules are often compulsory, leaving little time in the academic training programme for the actual act of researching and none for theory generation, exploration and testing. This is a common problem in taught doctorates and has led to the rather cruel, but possibly true, iteration that the taught doctorate research experience is a 'glorified masters'. We need to stop and really think about this as the future of our midwifery research education requires some philosophic discussion on what the aim of doctoral research education ought to be. I would strongly argue that this discussion considers research from inception at undergraduate level to post-doctoral level and we decide on the best way to maximise the research potential of our midwives for the future.

Let us work together to consider this issue in more depth. If we believe the aim of our doctoral research education is primarily the preparation of midwives to become contributors to the public health research agenda, answering questions that are pre-determined by the good and great; is that not very different to the intrinsic value of focusing on becoming excellent researchers with minds that are free to think without the fetters of forced application and outputs that are visible and measurable? You may believe we need to do whatever is prescribed by government, as this is where the funding will come from, but be wary of the 'economy-centred' path that will rob you of your research passion and make you fit a neat box. Others may hold fast to the argument that research ought to be both self-fulfilling and morally valuable to the society in which we live. As educators, should we not lead the philosophic arguments about the very purpose of education and research and differentiate between the different models and theories of both? As a professional midwife and a researcher, I believe we ought to be able to lead midwifery researchers to become theorists and philosophers and refute the plans to develop the universal doctorally prepared person who will take his or her place in the global army of research conformists.

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The politics of evidence and complex interventions: taking a long view through a sociological lens of continuity of midwifery care

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Abstract

The organisation of midwifery work and the relationships engendered with women, families and colleagues is a key question. This broader view helps us to see how changes in midwifery affect women as both providers and recipients of care. It is this theme that much of my research has been about.

In this paper, I discuss the processes around developing a programme of work over several years, on the nature of policy formation, implementation and impact of maternity services on providers, service users' experiences and health outcomes. I argue that policy is best understood, not as it is intended, but as it is enacted in the daily encounters between providers and service users. I outline findings from my doctoral research which explored how new models of midwifery care following *Changing Childbirth* were organised and the differential impact on midwives' work-life balance. I then explain how these findings and unanswered questions informed a Cochrane review synthesising the effect of midwife-led models of continuity of care on the impact on childbirth outcomes including women's experiences.

I then discuss theoretical and methodological issues that need to be considered by those researching in the field in the future. These include the importance of developing a theoretical understanding of what mechanisms may be operating, and the importance of drawing upon methodological work on the evaluation of complex interventions to inform future research designs.

Key words: Complex interventions, continuity of care, midwife-led care, evidence-based midwifery

The politics of maternity policy

Birth is a universal experience, yet the way we birth is not universal. The organisation and provision of maternity care is a highly charged mix of science, politics, cultural ideas and structural forces. One of the most interesting issues is the variation in the role of midwives. As de Vries and colleagues point out, the interests of midwives as people, of midwifery as an occupation and as a woman-centred service can be in conflict (de Vries et al, 2001). For example, self-employed midwives in many countries have a great degree of autonomy, but the hours are long and family life is difficult. The organisation of midwifery work and the relationships engendered with women, families and colleagues is a key question. This broader view helps us to see how changes in midwifery affect women as both providers and recipients of care. It is this theme that much of my research has been about.

Being at the birth of a new life is a huge privilege as a midwife and giving birth is often the most important event in women's lives, and transforms all of us into parents, grandparents, aunts and uncles. The ways a society copes with major events of birth, illness and death are central to the beliefs and practices of that society, and reproduction is an area that reveals the relations between health care and dominant social values.

There is considerable cultural variation in the way pregnancy and childbearing is defined and managed in everyday life. Thus the way reproduction is 'managed' has important implications for society as a whole. If you ask a

woman later in life, she will remember the events around birth; the sounds, the smells, the kindness and unkindness. The experience of childbearing can have profound impact on health and wellbeing in later life. Some women remember the story of their birth for all their life. For example, Penny Simkin compared women's birth accounts written just after birth with memories 20 years later. She found women's memories are generally accurate, and many are strikingly vivid. Everyone remembered, often with great clarity, the way doctors and nurses behaved and things they said (Simkin, 1992).

In the UK, it was the consumer organisations (the Association for Improvements in the Maternity Services and the National Childbirth Trust) that played a key role in the debate around childbirth in the 1970s, resulting in media and parliamentary interest. Maternity care professionals were accused of medicalising a normal physiological process, introducing new unevaluated techniques, failing to provide women with enough information and depersonalising childbearing women. Around this time, the government commissioned a survey of women's experiences of maternity care, specifically of induction of labour, which reached a peak of 40% in 1974 (Cartwright, 1979). Cartwright's conclusions legitimated consumer concerns and raised more questions than it answered. Importantly, how was it that a procedure (induction) that was unevaluated, involved costs and hazards, and was disliked by women, came to be so uncritically accepted and used by so many?

Evidence and maternity policy

There has been a long, sad history of uncontrolled experimentation and routinised use of unevaluated interventions in the area of reproductive health, such as the link between x-rays in early pregnancy and childhood leukaemia, and it remains a continuing concern today (Oakley, 1984). By the late 1980s, an accumulating body of research evidence in the Cochrane Collaboration Database and from National Perinatal Epidemiology Unit (Oxford) highlighted the benefits and hazards of routine maternity interventions (Chalmers et al, 1989). The assumption that the increased use of medical technology was responsible for a decline in mortality rates had been questioned in general (McKeown, 1976), and specifically in obstetrics (Cochrane, 1971).

The impact of research evidence has been profound on the policy-making process in the UK during the 1980s and 1990s. Apart from increasing evidence on the effectiveness of childbirth interventions, reviews of the evidence on safety and the place of birth (Tew, 1977) suggested that planned home birth in a low-risk pregnancy had a better, or at least a similar outcome (Campbell and Macfarlane, 1987). This epidemiological research and the social science research reporting on women's experiences of maternity care were drawn upon to inform the conclusions of important parliamentary reviews of maternity services.

Where previous inquiries had tended to focus on mortality, the Health Committee of the House of Commons in the early 1990s stressed that central to the inquiry was the management of normal pregnancy and birth. The *Winterton Report* concluded that there should be a move away from a concentration on mortality rates as the major outcome measure for the maternity services, towards a woman-centred approach that better met the needs of women, offering them choice in place and type of service with seamless care that minimised the number of professionals involved (House of Commons, 1992). These recommendations were seen as a milestone in maternity policy by consumer groups and midwives in particular. The government response, *Changing Childbirth* (DH, 1993), endorsed most of the *Winterton Report* (House of Commons Health Committee, 1992) and identified three key principles of woman-centred participatory care, accessible and appropriate services, and effective and efficient care.

Providing woman-centred care in the reality of organisational life

The challenge since this time has been the dilemma of providing individualised care within a structure and a system designed to process large numbers of people. Lipsky, an American political scientist, published *Street Level Bureaucracies* in 1980. He shows how and why organisations often perform contrary to their own rules and goals.

One issue for such workers is the conflict between their own commitment to a client-centred service and the reality of organisational life. They are expected to be client advocates, however advocacy can be incompatible with organisational perspectives that seek to treat all clients fairly. Public services

are often criticised for their inability to provide responsive and appropriate services that clients find dehumanising. Fragmented work organisation that fractures relationships with clients and little control over decision-making and over throughput of work is alienating. Some professionals drop or burn out quickly; those who stay perfect techniques and adjust attitudes to reflect lowered expectations for themselves, their clients and the potential of public policy. They develop working practices that narrow the gap between their personal and work limitations and the service ideal. At best they invent benign modes of mass processing that more or less permit them to deal with the public fairly and appropriately. At worst, they give way to favouritism, stereotyping and routinising. Thus he argues policy is best understood, not as it is intended, but as it is enacted in the daily encounters between workers and citizens. He suggests that the decisions of street level bureaucrats, the routines they establish, and the devices invented to cope with work pressures and uncertainty – in effect, become the public policies they carry out (Lipsky, 1980).

Researching complex interventions

My own research interests have explored how policies are experienced on the frontline by women and health professionals. I will demonstrate what I consider to be the key studies that I have been engaged in that have had a major impact on my research contribution to knowledge: my PhD, a subsequent Cochrane review and more recently the *Birthplace in England* study (Birthplace in England Collaborative Group, 2011).

Continuity of care and the caring dilemma

One of the most commonly expressed wishes of pregnant women – that they be attended during their pregnancy, labour and postnatal period by a carer with whom a relationship has been established – has been a key theme in many reports on maternity care in the UK. This has required radical changes in the organisation of maternity care, which has included a shift in roles and responsibilities between midwives and doctors and a requirement for more flexible working by midwives. Such changes have taken place against a background of evidence that models of care attempting to improve continuity may place extra demands on providers (Sandall, 1995). However, in 1993, there were no published studies of the health and wellbeing of the midwifery workforce in Britain.

Changing Childbirth resulted in new ways of flexible working that required a high level of commitment from the midwives involved (DH, 1993). My PhD explored the relationship between midwifery work, family life and health. The key question was not whether midwifery work is good or bad for midwives' health but under what occupational and family circumstances might employment be good or bad for their health? Findings were drawn from a national survey in 1995 of 5% of RCM midwife members in England (n=800). Half of the midwifery workforce needed to make childcare arrangements, 43% of midwives worked part-time and midwives with family commitments tended to work in

hospital rather than the community, which required more flexible ways of working.

A total of 26% of midwives reported high levels of emotional exhaustion, which is a core dimension of burnout. When the relationship between occupational factors, family life and midwives' health was examined using regression analysis, occupational factors were the most important predictors of burnout and wellbeing. The results showed firstly that high levels of control over work were a key factor in whether midwives become burnt out, and that some work organisational structures seem to embody low levels of occupational control. Secondly, long working hours were a key factor in burnout, and an increasing number of midwives were working flexible and longer hours compared to previously. A third of midwives were working in new schemes, mainly teams. Midwives working in new schemes tended to have a wider scope of practice (mainly intrapartum technical tasks) compared to their counterparts in traditional patterns of care, but lower levels of control over other aspects of work organisation (Sandall, 1998). The data from the qualitative case studies also indicated that control over the organisational aspects of work was very much greater for midwives who carried their own caseload, and that supportive relationships with women and colleagues were important protective factors (Sandall, 1996a).

In conclusion, the aspirations for change in *Changing Childbirth* were difficult to deliver because of the understandable inability and reluctance of midwives themselves to become flexible workers. A gendered paradigm of professional practice had been drawn upon, which assumed continued availability over a 24-hour period, and an opportunity had been missed to develop new paradigms of professional practice that reflected the ideology of woman-centred practice for providers as well as recipients (Sandall, 1996b). This continues to be a problem for the midwifery profession in many countries today, where midwives are not prepared to trade off a potentially more fulfilling way of working with greater intrusion into personal and family life. But clearly the way that care is organised and delivered impacts on the sustainability for care providers.

Impact of continuity of care on outcomes for women/babies

So, my next question was that, bearing in mind some of the difficulties for providers, how important were these models of continuity of midwifery care to women, and were they associated with improved childbirth outcomes?

Our Cochrane review of midwife-led models of care synthesised information on differences in maternal and perinatal morbidity and mortality, effectiveness, and psychosocial outcomes (Hattem et al, 2008). Midwife-led care is a complex intervention, and our review assesses the effectiveness of midwife-led continuity of care provided through a team or caseload models. Midwife-led care is defined in our review as care in which 'the midwife is the lead professional in the planning, organisation and delivery of care given to a woman from initial booking to

the postnatal period' (RCOG cited in Hattem et al, 2008: p3). In addition, midwife-led models of care aim to provide care in either community or hospital settings, normally to healthy women with uncomplicated or low-risk pregnancy. However, some antenatal and/or intrapartum and/or postpartum care may be provided in consultation with medical staff as appropriate. The review compared midwife-led models of care with other models of care for childbearing women and their infants. We investigated whether effects of midwife-led care were influenced by: differing levels of continuity in team and caseload models; level of obstetric risk; practice setting (community- or hospital-based).

The review summarised 11 trials involving 12,276 women that took place in public health systems in four countries (the UK, Canada, New Zealand, and Australia). The review included trials with women classified as being at 'low' and 'mixed' risk of complications. 'Other' models of care included shared and medical-led care. Midwife-led models of care included team and caseload midwifery. In team midwifery, a woman receives her care from a number of midwives in the team; the size of which can vary. In caseload midwifery, a woman receives her antenatal, intrapartum, and postnatal care from one midwife and back-up practice partner(s). None of the trials included models of care that offered home birth, although some offered intrapartum care in a midwife-led birth centre in a hospital.

We found that women who received models of midwife-led care were nearly eight times more likely to be attended at birth by a known midwife, were 21% less likely to experience fetal loss before 24 weeks' gestation, 19% less likely to have regional analgesia, 14% less likely to have instrumental birth, 18% less likely to have an episiotomy, and significantly more likely to have a spontaneous vaginal birth, initiate breastfeeding, and feel in control. In addition to normalising and humanising birth, the contribution of midwife-led care to the quality and the safety of health care is substantial.

The implications are that policy-makers who wish to improve the quality and safety of maternal and infant care, particularly around normalising and humanising birth, should consider midwife-led models of care and how financing of midwife-led services can support this (Sandall et al, 2010). Findings have informed the UK government commission on midwifery and nursing, and US, Brazilian and Australian reviews of maternity services.

Exploring the black box

We do not know how or why continuity of midwife-led care has the above effects. It is important to know that such effects are achieved where the majority of intrapartum care takes place in a standard obstetric unit, and that there are similar effects on women classified as high risk. We do not know if these effects are due to the continuing relationship between a midwife and a woman, which may lead to a reduction in stress and anxiety, or earlier detection of problems and better care co-ordination between midwives and obstetricians, or better care pathways/protocols. Could

they be due to increased advocacy and midwives 'minding gaps in system? It seems that there is more going on here than midwife-led care.

We know from the *Birthplace in England* study that childbirth environments influence the healthcare professionals who work in them (McCourt et al, 2011), as well as the women who labour and give birth in them (Birthplace in England Collaborative Group, 2011). I have discussed the difficulties for midwives of providing individualised woman-centred service in a health system that is designed for batch processing and the 'caring dilemma' that many midwives face when they have a clash of their personal caring responsibilities and those of the women they care for.

These structural factors are important because they affect the dynamics of power in the midwife/woman relationship, and influence whether midwives are 'with women' or 'with the bureaucracy'. The Cochrane review shows the profound beneficial effects that midwife-led care can have on a range of clinical outcomes (Hatem et al, 2008). I would suggest that for a range of reasons, continuity of care provided through a caseload midwifery model enables midwives to provide a woman-centred service within a larger system of care (Finlay and Sandall, 2009) and, if organised carefully, also engenders high levels of job control that facilitates work/life balance. We need to research this area more closely. If we

are to improve women's experiences of childbirth, we need to understand in more depth how the social context shapes the delivery of services to childbearing women.

The challenge for researchers in the future is to have a more sophisticated understanding of how such complex interventions may be working and draw on existing guidance when designing research (Craig et al, 2008). Key points are that: a good theoretical understanding is needed of how the intervention causes change, so that weak links in the causal chain can be identified and strengthened; lack of effect may reflect implementation failure (or teething problems) rather than genuine ineffectiveness, and a thorough process evaluation is needed to identify implementation problems; variability in individual level outcomes may reflect higher level processes, and sample sizes may need to be larger to take account of the extra variability and cluster randomised designs considered; a single primary outcome may not make the best use of the data; and a range of measures will be needed and unintended consequences picked up where possible.

Finally, I would want to be optimistic. There is beginning to be a recognition within the world of evidence-based health care that although the rigorous summarising of evidence to inform health care decision-making is crucial, evidence is not enough and there needs to be a greater understanding of the effect of these complex social systems and cultures on both the provision and also on the recipients of health care.

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Repeat CS or VBAC? A systematic review of the factors influencing pregnant women's decision-making processes

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Abstract

Background. Recent guidance from NICE (2011) has underlined the importance of facilitating informed decision-making for pregnant women with respect to planned repeat caesarean section (CS) and planned vaginal birth after CS (VBAC). The facilitation of informed decision-making requires midwives, obstetricians and other healthcare professionals to have a holistic understanding of the factors influencing women's decisions.

Aim. To undertake a mixed studies systematic review of the factors influencing pregnant women's decisions with respect to planned repeat CS and planned VBAC.

Methods. Pope et al's (2007) guidelines were used to structure the review. Eight electronic databases (from October 2001 to October 2011) were searched. Research studies and systematic reviews that examined decision-making from the perspective of pregnant women and/or healthcare professionals were included. Procedures were systematically applied for quality appraisal and data extraction. Thematic analysis and narrative summary techniques were used.

Findings. A total of 25 studies were included in the review. Analysis highlighted the complexity of women's decision-making yielding five broad themes namely; facilitating woman-centred care; organisation of maternity care and the influence of healthcare professionals; women's knowledge and perceptions of risk; education and counselling programmes, and use of decision aids; and women's responsibilities.

Conclusion. Attention needs to be directed to the accurate assessment of women's decisional needs, and the development and evaluation of decision-support interventions.

Key words: Pregnant women, caesarean section (CS), vaginal birth after caesarean (VBAC), decision-making, literature review, systematic review, evidence-based midwifery

Introduction

Over the past three decades, there has been a substantial increase in caesarean section (CS) rates in middle- and high-income countries around the world (Mazzoni et al, 2011). CS accounts for 30% of births in Northern Ireland (Northern Ireland Statistics and Research Agency, 2010), 24.8% in England (Department of Health, 2010a), 31.1% in Australia (Australian Institute of Health and Welfare, 2010), and 32.9% in the US (Menacker and Hamilton, 2010). Reported rates from South America are higher, reaching over 50% in private hospitals in Brazil, Chile and Argentina (Villar et al, 2006).

Prior CS is the most common indication for repeat CS and accounts for more than one-third of all births by CS (Choudhury and Dawson, 2008; Guise et al, 2010). Although the evidence relating to maternal and perinatal morbidity and mortality for planned repeat CS versus planned vaginal birth after CS (VBAC) continues to evolve (Dodd et al, 2004; Landon, 2008; David et al, 2009; Rozen et al, 2011), recent guidance from NICE (2011) has underlined the importance of facilitating genuine informed decision-making for pregnant women with respect to this aspect of maternity care. Facilitation of informed decision-making requires midwives, obstetricians and other healthcare professionals to ensure that women fully understand information concerning the risks, benefits and uncertainties associated with both planned repeat CS and planned VBAC; engage in a process of deliberation about such alternatives and make decisions consistent with their own personal preferences, values and experiences (Briss et al, 2004). Midwives, obstetricians

and healthcare professionals therefore require a holistic understanding of women's decision-making processes about, and preferences for, birthing after CS. The aim of this paper was to undertake a mixed studies systematic review of the factors influencing pregnant women's decisions with respect to planned repeat CS and planned VBAC.

Methods

Embarking on a literature review requires that the structure, process and outcomes be clearly articulated (Lagan et al, 2006). We followed Pope et al's (2007) guidelines.

Development of the review question

An initial scoping exercise of databases (CINAHL, Medline, PsycINFO and Sociological Abstracts) and a database of reviews (Cochrane Collaboration Database of Systematic Reviews) revealed that existing research literature was underpinned by a range of research methodologies, predisposing to the supposition that a group of studies methodologically diverse enough to facilitate a mixed studies review could be selected. In addition, there was no single primary factor influencing women's decision-making upon which the review might focus its attention. In consequence, the following question was used to guide the focus of the review: What is known from the quantitative, qualitative and/or mixed studies research about the factors that influence pregnant women's decisions on birthing after CS?

Determining inclusion and exclusion criteria

We included research studies and systematic reviews that

quantitatively and/or qualitatively evaluated pregnant women's decision-making processes with respect to birthing after CS. In order to obtain a comprehensive understanding of the phenomenon, we included studies that examined decision-making from the perspective of pregnant women and/or healthcare professionals. We did not restrict our search by country, study design or methodology. We restricted the search to studies published in English between October 2001 and October 2011. We excluded studies not collecting data directly from pregnant women and/or healthcare professionals, editorials, letters to the editor, and commentaries.

Undertaking a comprehensive search

Corresponding author Carrie Flannagan (CF) conducted a systematic search of: Medline, Cumulative Index to Nursing and Allied Health Literature (CINAHL), British Nursing Index (BNI), Science Direct, PsycINFO, Maternity and Infant Care (formerly MIDIRS Midwifery Digest), Sociological Abstracts and the Cochrane Collaboration Database of Systematic Reviews. A highly sensitive search strategy was performed using the following terms: 'repeat caesarean', 'previous caesarean', 'elective caesarean', 'vaginal birth after caesarean', 'VBAC' with 'decision-making, woman/patient', 'birth choice, preference, woman/patient', 'woman/patient participation'. We also used truncated forms of each term. Reference lists of all retrieved full-text articles were examined for additional references.

Selecting studies

Table 1 summarises the search process with respect to the papers retrieved for each database. CF reviewed the titles and abstracts of all 146 retrieved citations and 108 papers (inclusive of 21 duplicates) were excluded, leaving 38 papers for full review. The papers were independently assessed by both reviewers to assess suitability and 25 were deemed eligible. Any discrepancies between reviewers were resolved by consensus in both phases. A flow chart of the selection process is presented in Figure 1.

Appraising the quality of included studies

The methodological quality of all included studies was assessed independently by both reviewers using the categories of

evidence employed by the Department of Health in the National Service Frameworks (2001) (cited in Anderson et al, 2004). The rationale for using this framework was twofold. Firstly, it is to provide a means by which the evidence from a range of methodologically different types of research can be graded. Secondly, it is to provide a logical framework that can be used during the development of systematic review protocols to help determine the study designs that can contribute valid evidence when the evaluation extends beyond effectiveness (Evans, 2003). No studies were excluded on the grounds of quality. In other words, no study was deemed to be 'fatally flawed' in terms of how it was conducted or reported upon, or both.

Data extraction

Data were extracted using a purposefully designed template, including the following headings: country, study design, sampling and sample size, methods of data collection and analysis, outcomes measured and main findings. CF extracted the data from all the included studies, and author Bernadette Reid confirmed the accuracy of the data abstraction.

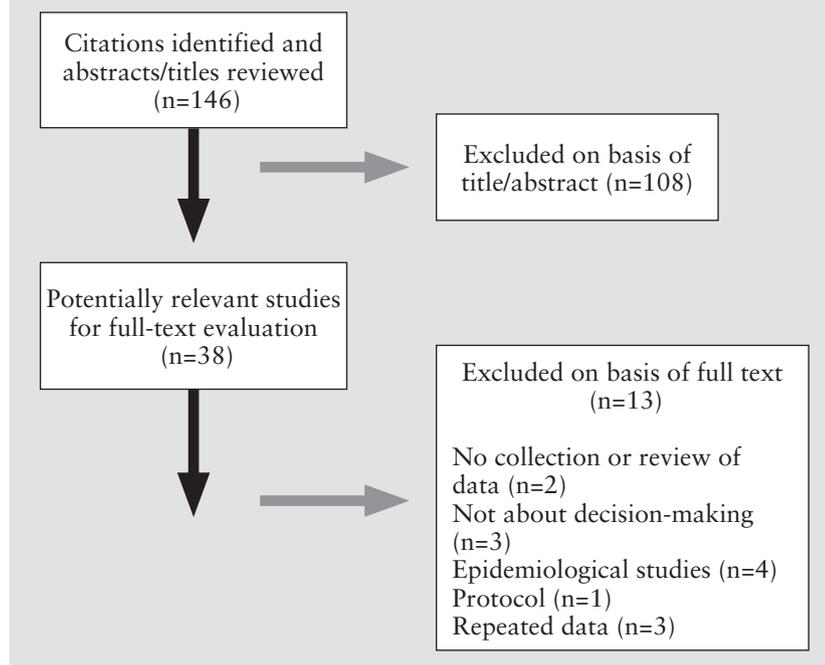
Synthesising the findings

Included studies consisted of quantitative, qualitative and mixed methods studies, together with systematic reviews, reflecting differences in populations studied, methodologies used, and outcomes measured. A meta-analysis was not appropriate due to the heterogeneity of included quantitative studies. A qualitative meta-synthesis was considered but rejected for this review as it would have excluded important quantitative findings. We therefore drew on pragmatic qualitative techniques for synthesising findings (Noyes et al, 2008). Individual papers were analysed independently by both authors to identify key themes, and these themes were compared and contrasted across papers to identify higher level themes, which were further integrated, refined and synthesised until an agreement about the final themes was reached. Agreements on these were high and we resolved disagreements by discussion and clarification. Final themes were identified and extracted to form a comprehensive picture of women's collective decision-making experiences. This allowed conclusions to be drawn based on common elements

Table 1. Summary of selection process for each database

Database/Source	No. of papers retrieved from initial search	Papers identified as potentially eligible	Studies included in review
Medline	16	9	7
CINAHL	46	8	6
British Nursing Index	3	3	2
Science Direct	41	7	4
PsycINFO	1	1	1
Maternity and Infant Care	18	6	4
Sociological Abstracts	18	1	1
Cochrane Collaboration	3	3	0
TOTAL	146	38	25

Figure 1. Study selection process



across otherwise heterogeneous studies (Pluye et al, 2009). A narrative summary technique was used to aid interpretation of study results (Noyes et al, 2008). Copies of the full search strategy, list of excluded papers, detailed quality appraisal, data extraction templates, and development of themes are available from CF.

Findings

The 25 studies included in this review (a comprehensive table including methodology and findings is available on the EBM website) represent not only a diverse range of research methodologies (qualitative n=15, quantitative n=7, systematic reviews n=2 and mixed methods n=1) but also an international perspective (UK n=11, Australia n=9, US n=4 and Taiwan n=1) of the factors influencing pregnant women's decisions with regard to planned repeat CS and planned VBAC. The majority of studies examined decision-making from the perspective of women (n=22) with two studies focusing on the perspectives of healthcare professionals. One systematic review explored the perspectives of both women and healthcare professionals. Two studies (Cleary-Goldman et al, 2005; Montgomery et al, 2007) were also included in Catling-Paull et al's (2011) systematic review. The vast majority of studies included in Catling-Paull et al's (2011) systematic review were not included in this review as the former investigated the impact of non-clinical interventions (for example, national guidelines, audit and feedback) on VBAC rates as compared to the latter, which specifically focused on women's decision-making processes. The two studies by McGrath and Ray-Barruel (2009) and McGrath et al (2009) represented different aspects of decision-making from the same sample of women.

Many of the included studies highlighted multiple factors that, when considered in context, had a significant impact on women's birthing experiences following CS. The challenge was, therefore,

to understand the discrete nature of the issues in order to synthesise the findings systematically. With this in mind, five themes emerged; facilitating woman-centred care; organisation of maternity care and the influence of healthcare professionals; women's knowledge and perceptions of risk; education and counselling programmes, and use of decision aids; and women's responsibilities following childbirth.

Facilitating woman-centred care

For pregnant women and healthcare professionals, holistic care, based on unique clinical and individual circumstances, was central in birth choice and outcome satisfaction. In their exploratory interviews with health professionals, Kamal et al (2005) concluded that effective decision-making was contingent on their judgement of and sensitivity towards individual cases, and the outcomes of their collaborative negotiations with women. Similarly, Catling-Paull et al (2011) found, among other factors, that evidenced-based individualised information can impact on the number of women choosing and succeeding in VBAC. Two further

qualitative studies offered insights into the decision-making process for women facing birth choices following a prior CS. Moffat et al (2007) found that women prioritised information specific to their clinical circumstances, and wanted to be involved in decision-making, but lacked confidence when faced with final outcome decisions. Farnworth et al (2008) introduced a patient-focused intervention designed to test the effectiveness of face-to-face midwifery support in conjunction with an information DVD. The salient nature of this study was in the continuity of midwifery-led, woman-centred care for the intervention group, resulting in an improved decision-making experience.

Organisation of maternity care and influence of healthcare professionals

The facilitation of woman-centred care cannot be easily disentangled from the context or setting in which maternity care is delivered and the influence of healthcare professionals. The findings of Shorten et al's (2004) study suggests that women were more likely to have a repeat CS in a maternity unit where CS was traditionally favoured. Kamal et al (2005) reported that the conditions of the maternity unit (for example, availability of beds) in which midwives and obstetricians were working and their sensitivity to the cost of CS relative to vaginal delivery impacted on their negotiations with women concerning repeat CS. Catling-Paull et al's (2011) review examined the characteristics of different settings and found that VBAC was more likely to occur in teaching hospitals or hospitals with higher levels of obstetric support.

Elaborating further, Catling-Paull et al (2011) reported that the characteristics and attitudes of healthcare professionals were potentially significant factors in terms of women's birth choices. For example, obstetricians with an overall CS rate of less than 15% were more likely to have higher VBAC rates. However, the attitudes of healthcare professionals could be localised, and

were found to impact VBAC and repeat CS rates both positively and negatively. Fenwick et al (2006) found that 'how' the doctor discussed the option of VBAC, as compared to repeat CS, exerted a major influence on women's decisions. Women reported doctors recommending repeat CS as the safest or indeed the only option. Similarly, McGrath et al (2010) reported that women perceived the attitudes of hospital obstetricians to be predominately pro-CS, with emphasis on the overwhelming risks of VBAC. Conversely, Ridley et al's (2002) descriptive study found that women cited encouragement from their doctor as an important influence in their decisions to attempt VBAC. The women in Meddings et al's (2007) study were all aware that their midwives and doctors supported trial of labour, which it is suggested may have influenced their decisions to choose VBAC. Despite doctors' attempts to involve them in decision-making, Moffat et al (2007) described how women did not always welcome the opportunity, wanting decision-making taken out of their hands. The support of midwives in women's decision-making was ambiguous, with Cox (2007) commenting that women found their community midwives very reticent about giving information on the risks and benefits of VBAC and repeat CS. Goodall et al (2009) further describes how some midwives were perceived by women as supportive of VBAC, while others placed too much emphasis on its risks and possible negative outcomes. Nevertheless, Fenwick et al (2006) and Goodall et al (2009) conclude that women predominantly followed the advice of healthcare professionals, particularly obstetricians, and consent to, rather than choose, a repeat CS in the belief that it is the safest option for them and their baby. The women in Goodall et al's (2009) study recognised that such attitudes and advice effectively disabled their freedom of choice.

Women's knowledge and perceptions of risk

The findings presented by David et al (2010) suggest that women come into their next pregnancy after a previous CS with varying levels of knowledge about and/or commitment to the concept of VBAC. The role of healthcare professionals in providing information was shown to have a significant impact in terms of women's knowledge of birth choices, as illustrated in Emmett et al's (2006) qualitative study. Women in this study reported that the information provided by healthcare professionals was variable and more commonly related to procedural aspects of care rather than discussion of health risks and benefits associated with VBAC and repeat CS. Women felt that often information was not provided as a matter of course but was available on request. Conversely, women in Cox's (2007) study underline the importance of the hospital consultant as a major source of information on the risks and benefits of VBAC and repeat CS. Women perceived that the more information they received, the more useful and important that information became. However, some women viewed the information they received to be trivial and unhelpful for decision-making. Similarly, women in Goodall et al (2009) regarded themselves as lacking relevant knowledge to make an informed decision about mode of delivery. Chen and Hancock's (2011) survey further reported that although women cited childbirth classes as the main source of information about birth options, women were not knowledgeable regarding the risks and benefits of CS and VBAC. Women viewed VBAC as

a dangerous birth, whereas the risks of CS were downplayed or not mentioned. Chen and Hancock (2011) conclude that lack of knowledge not only alienates the pregnant woman from her birth experience, but also acts as an obstruction to genuinely informed decision-making and violates woman-centred care.

Cox (2007) reported that women's perception of risk is very individual. Goodall et al (2009) found that women had difficulty in comprehending probabilistic risk information and there was also the question of 'framing' risk information with, for example, one woman quoting a 30% chance of having a repeat CS, but ascribing much less importance to a 70% chance of VBAC. Previous birth experience also informs women's perception of risk, as illustrated in Fenwick et al's (2006) qualitative study in which the sample group of women who had experienced CS in a prior birth, reconstructed CS as the safer option for childbirth, and felt that vaginal birth was unsafe and unachievable. The perceived benefits of CS, including preparation and convenience, were emphasised as the more dominant priorities. McGrath and Ray-Barruel (2009) found that psychological factors, such as fear of vaginal birth and a strong sense of their body's inability to give birth vaginally, were more significant in determining women's choices than information or advice on risk. Moreover, many of the women in McGrath et al's (2009) study brought to these discussions of risk, a pre-determined choice for elective CS and were not open to the information presented. Women may not have read the information on risk provided by health professionals, or the health professional may not have offered risk information if the woman held a strong pre-determined choice. In an effort to quantify risk, Sharma et al (2011) found that women's subjective prioritisation of risk can lead to a decision that is counter-intuitive to the objective clinical evidence regarding birth options.

Counselling/education programmes and use of decision aids

Women's varying levels of knowledge and uncertainty seem to be addressed in some way by targeted counselling and education programmes, and use of decision aids, which have been shown to increase women's knowledge and decrease decisional conflict with regard to birth choices. Eden et al's (2004) systematic review of 11 studies concluded that counselling and education programmes should be initiated pre-conception or in very early pregnancy, as many women form opinions about birth options before or early in their pregnancy. In Cleary-Goldman et al's (2005) prospective cohort study of pregnant women participating in a formal VBAC counselling programme, women exhibited a high level of understanding about the risks and benefits of trial of labour. Increased satisfaction was reported following current delivery compared with previous CS, with greatest satisfaction being observed in those who succeeded at VBAC. Wang et al's (2006) study found that participation in a web-based VBAC educational programme had a significant impact on women's knowledge and attitudes towards VBAC. The programme helped women prepare for childbirth, build confidence to give birth, and know their rights.

Other studies examined the impact of tailored decision aids on women's birth choices. Decision aids were tools designed to facilitate woman-centred decision-making in conjunction with informed practice as the pregnant woman was actively engaged

in contemplating birth choices. Shorten et al (2004; 2005), in the *Making choices for childbirth* series, conducted a limited pilot study followed by a controlled trial of an informational (decision aid) booklet, introduced at 28 weeks' gestation. Levels of knowledge, decisional conflict, birth preferences and actual mode of delivery were measured, with outcomes reflecting reduced decisional conflict but no significant change in birth preference or actual outcome. Interestingly, other studies indicated that introducing a decision aid at 28 weeks' gestation reduces the potential for facilitating decision-making, as decisions regarding birth choice evolve over time, and begin at the very earliest stages of pregnancy, or possibly pre-conception (Emmett et al, 2006; Rees et al, 2009). The impact of the timing of information provision was further explored in Montgomery et al (2007), as the sample group (n=742) was randomised into a control group with usual care, a second group with information provision, and third group who undertook computer-assisted decisional analysis at around 10 to 12 weeks' gestation. Both intervention groups reflected reduced anxiety and greater knowledge, with the decisional analysis group additionally associated with a higher proportion of women experiencing vaginal birth. However, in a qualitative follow-up study, Frost et al (2009) found that for some, the decision analysis added to the uncertainty in women's decision-making prior to birth.

Women's responsibilities following childbirth

The non-clinical aspects of care that reflect women's responsibilities as mothers, wives and members of society were found in some studies to be the primary factor influencing decision-making rather than the careful evaluation of health risks of VBAC or repeat CS for mother and baby. Eden et al (2004) demonstrated that women's birth choices were often based on family obligations, such as the need for 'easier' and shorter recovery following VBAC so that they could care for other children. On the other hand, a scheduled repeat CS allowed women to set dates that co-ordinated well with work commitments and allowed time to plan for child care. Farnworth and Pearson (2007) identified similar practical issues influencing decision-making, such as women's ability to maintain an independent role within the family. Other concerns identified by women included the impact of CS on bonding, feeding, body image and future childbearing. In Meddings et al's (2007) study, women who chose VBAC also highlighted bonding, breastfeeding, and the ability to take up family responsibilities more rapidly as priorities in subsequent birth choice. Financial implications, the need for assistance from family members, disruption to family life caused by a longer recovery period, and inability to drive after CS were major considerations for women in Moffat et al's (2007) study. Conversely, McGrath and Ray-Barruel (2009) conducted postnatal interviews with a sample group of women who had opted for repeat CS (n=16) and found some of the same psychosocial priorities had been interpreted in favour of CS, including control over the birthing process and fear of childbirth. In both studies, the timing of information provision remains a key variable, as birthing decisions are made prior to, or very early in the pregnancy, depending perhaps on the woman's previous birth experience. Following a qualitative, semi-structured interview at 36 weeks' gestation, Farnworth and

Pearson (2007) concluded that decision-making was influenced by priorities including time, recovery period, and an expectation of the more acceptable option.

Discussion

Repeat CS makes a significant contribution to overall rates of CS. How women make their decisions about birthing after CS is an important empirical question if maternity services are to be developed in a co-operative and respectful manner for women. The primary aim of this review was to explore the factors influencing pregnant women's decision-making with respect to planned repeat CS and planned VBAC. Our findings point towards the underlying reality of the complex processes of decision-making that were common to women from different countries and healthcare systems.

The five themes emerging from this review highlight that women's decision-making was influenced by a range of needs including: to become active participants in, and receptive to, the decision-making process; to receive evidence-based individualised information; to evaluate previous birthing experience; for a prompt resumption of family responsibilities; and to resolve uncertainty about which birth option to choose. Interestingly, there were very limited attempts by the included studies to quantify how women 'weighed' or valued these sometimes competing needs. The review further points to the variable manner in which these needs were facilitated or supported. Decisional support was found to be helped or hindered not only by the organisation of maternity care, but by the manner in which healthcare professionals facilitated woman-centred care, engaged with women in the decision-making process, provided and clarified information, and used decision aids. The purpose of decisional support is to enable women to make a 'quality' decision. Although it remains a challenge to define, the International Patient Decision Aids Standards Collaboration (Elwyn et al, 2009) has reached a consensus that a 'quality' decision is one that is informed, consistent with women's values, acted upon, and one in which women express satisfaction with way in which the decision was arrived at. The 'quality' of the decisions made tended to be evaluated by intervention studies and although women's knowledge levels may have increased and decisional conflict may have decreased, this did not necessarily translate into more women choosing VBAC.

These findings have implications for both clinical midwifery practice and research as midwives are placed firmly at the heart of woman-centred care (Department of Health, 2007; 2010b). Accurate and complete assessment of women's decisional needs sets the stage for effective decision-support interventions. Such interventions should be tailored to meet women's individualised needs and may use counselling, decision aids or coaching to clarify the decision, provide facts and probabilities, clarify values, guide in deliberation and communication, and monitor/facilitate progress in decision-making. It is suggested that midwives remain alert to a tendency to over-use factual information about birth options and under-use other strategies. Research is required to determine how women 'weigh' or value their sometimes competing decisional needs and to further develop interventions that help women understand how competing needs might influence their decision-making processes. It also

is essential for midwives to become involved in the empirical evaluation of decision-support, and such evaluations might consider distinguishing between quality decision-making and quality outcomes, because good decisions can still result in poor outcomes, due to the stochastic nature of giving birth. Since women's decisions to choose repeat CS or VBAC cannot be judged as right or wrong, indicators of quality decision-making may include: adequate knowledge, realistic expectations, clear values, congruence between values and choice, low decisional conflict, and satisfaction with the decision-making process.

The evidence presented in this review has particular strengths and weaknesses. It has strengths because the review draws upon a breadth of data from 25 studies investigating the decision-making processes of pregnant women with respect to repeat CS or VBAC. Most of the included studies were qualitative, enabling a rich and detailed exploration of what it means to be a woman making decisions about birth options. Many of these studies identify similar factors, highlighting the important and widespread nature of those factors impacting upon women's decision-making processes. However, it could be concluded that we do not need any more small-scale qualitative studies on this subject, but rather a coherent programme of research that focuses on the interplay of factors influencing decision-making, and the development and evaluation of decision-support.

While there is strength in the wide number of studies from which this review draws, there are also limitations. We both independently performed the analysis and quality evaluation,

but a single reviewer selected the key studies for inclusion. It is also possible that the key words used may not have identified all the published research on women's decision-making processes. Further, conference papers and other unpublished sources were not accessed for inclusion in this review. Additionally, only studies published in the English language over the past ten years were considered. More importantly perhaps, the review presents findings about decision-making collected at different times (antenatal, postnatal, and outside pregnancy) in women's lives. This raises the question of whether women's perceptions of decision-making altered at different moments, thereby impacting upon the findings of the selected studies. However, it is not possible to draw any such comparisons from this review.

Conclusion

NICE (2011) has underlined the importance of facilitating genuine informed decision-making for pregnant women with respect to repeat CS and VBAC. This review has highlighted the complexity of factors influencing women's decision-making. Pregnant women and healthcare professionals, particularly midwives, will reap valuable rewards from a thorough understanding of these factors in terms of facilitating positive and life-enhancing woman-centred care. Nevertheless, further research is necessary to establish the most appropriate decision-support required to ensure that pregnant women with a previous CS feel confident and supported when they decide how their baby is to be born.

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Jordanian pregnant women's knowledge, expectations, and informed choice of the second trimester ultrasound

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Abstract

Background. Jordanian women's knowledge, expectations and informed choice about the second trimester ultrasound have not been reported previously. To ensure that Jordanian women have an informed choice, it is essential to obtain information relating to their understanding and expectations of consenting to these routine procedures in pregnancy.

Aim. To explore women's knowledge and expectations of second trimester ultrasound, and to explore whether or not women received and retained sufficient information about the purpose, capability, limitations and drawbacks of second trimester ultrasound screening in terms of meeting the requirement of informed choice.

Method. A cross-sectional survey was used to collect data through self-report questionnaires from women who attended the antenatal clinic at King Abdullah University Teaching Hospital in Jordan. The women's consent was obtained.

Findings. Findings from open-ended questions related to informed choice indicated that for the majority of women, their understanding about the diagnostic abilities, technical limitations and drawbacks of the second ultrasound scan did not meet the requirement of informed choice. A total of 75% of women thought ultrasound screening could detect blood disorders, while 82% thought that a normal ultrasound scan meant that their baby would be born without any defects. Only 14.3% considered screening for birth defects as the reason for their 18-20 week scheduled ultrasound, and 11% were aware of fetal problems that could go undetected by ultrasound screening. This study proposes the development of a national standard for evidence-based information to be provided for women about the proposed 'routine anomaly scan'.

Key words: Antenatal ultrasound, knowledge, pregnant women, screening, survey, Middle East, expectations, informed choice, evidence-based midwifery

Introduction

The use of obstetric ultrasound scanning has spread widely and is now a standard component of antenatal care, and Jordan is no exception. Antenatal ultrasound scans are usually requested by healthcare providers as either part of baseline antenatal evaluation or for specific medical indications in the course of pregnancy (Enakpene et al, 2009). The second trimester ultrasound scan (USS) is a non-invasive procedure offered to women between the 18th and 20th weeks of pregnancy. The main purpose of the second USS, which is known as the anomaly scan, is to check that the baby appears to have no obvious structural abnormalities. Lack of explicitness about which structures have been examined may lead to confusion. More detailed scans evaluate cardiac outflow tract, face and lips (RCOG, 2000).

Informed consent is of the utmost importance before having an ultrasound examination performed in pregnancy, as emphasised by the recommendation of NICE: 'At the first contact with a healthcare professional, women should be given information about the purpose and implications of the anomaly scan to enable them to make an informed choice as to whether or not to have the scan' (NICE, 2008: 20).

Since the introduction of second trimester USS service in Jordan, there is no written information provided early in pregnancy by the hospital to outline the purpose, benefits and limitations of the second USS. However, verbal

information about the appointment time and the purpose of the scan is provided for women by fetal medicine doctors. All scans are performed by these doctors in the antenatal clinics and the procedure takes about 20 minutes. It is not known if the information given can facilitate women to make an informed choice about this second USS. Currently, there are no Jordanian national policies guiding the registration/training of providers of USS, nor is there guidance for women about whether or not this procedure is necessary and beneficial.

According to NICE clinical guideline 62 on antenatal care: 'Ultrasound screening for fetal anomalies should be routinely offered, normally between 18 weeks 0 days and 20 weeks six days.' Fetal echocardiography involving the four chambers of the heart is recommended as a part of routine anomaly scan (NICE, 2008: 20). According to RCOG (2000), about half of all major abnormalities will be visible on a scan. This means that even if the scan is normal, there is a small chance that the baby may have an undetected problem. The recommendation by NICE is: 'Women should be informed of the limitations of routine ultrasound screening and that detection rates vary by the type of fetal anomaly, the woman's body mass index and the position of the unborn baby at the time of the scan' (NICE, 2008: 20).

Previous studies have shown that women are often not informed of what can be diagnosed by ultrasound, and the

potential risks of diagnosis of a malformed fetus, and the implications of such findings (Green et al, 2004).

Literature review

A structured literature search was conducted to identify the evidence concerning women's knowledge, expectations, and informed choice of second trimester USS internationally, and more specifically in Jordan. The following databases were explored: Academic search complete (2005-present), Medline (2005-present), Cumulative Index to Nursing Allied Health Literature plus with full text (CINAHL) (2005-present), Science Direct (2005-present) and Cochrane Database of Systematic Reviews. The computer search was supplemented by a manual search of references listed. The key words used for search strategy were 'second ultrasound', and/or 'detailed ultrasound scan'. These were combined to 'pregnant women's', 'knowledge', 'experience', 'expectations', 'informed choice' and subsequently combined to 'Northern Jordan', 'Jordan' and 'Middle East'. The selected language for literature search was English. The search strategy identified a total of 5284 papers; 700 from Medline, 169 from CINAHL, 3218 from Academic Search Complete, and 195 from Science Direct. A total of 57 abstracts were reviewed independently by the authors and 27 were excluded, leaving 28. The search for Middle Eastern women knowledge, expectations and experience of second ultrasound was undertaken using the above database. Only two papers were retrieved.

When routine ultrasound screening during pregnancy was introduced in Jordan, its aim was to estimate gestational age, detect multiple pregnancies and localise the placenta. As equipment and skills have developed, screening for fetal malformation became part of the procedure. Internationally, there are differences in the use of the technique concerning the purpose of the examination and the number of examinations carried out during pregnancy (Vanara et al, 2004). The quality of the equipment also differs, as well as the profession of the examiner (Ekelin et al, 2008). In Jordan, the second USS is offered to pregnant women who are identified as high risk by fetal medicine doctors using four-dimensional power Doppler ultrasound. Enkin et al (2000) have reported that the value of selective USS for specific indications in pregnancy has been clearly established. However, the role of routine USS has not been clearly determined as yet. There is a considerable debate about the potential benefits to enhancing women's reproductive choice, as the scan has false positive and detection rates (RCOG, 2000; NICE, 2010).

In addition, concerns have been raised about ethical, legal and social dilemmas for women. Ethical issues are of particular importance in screening programs which may induce unnecessary anxiety in the case of false positive (Larsen et al, 2000). Legal and social dilemmas of choice when unexpected findings were diagnosed after a routine ultrasound examination have been reported in recent literature (Gammeltoft and Nguyen, 2007; Sommerseth and Sundby, 2010; Aune and Moller, 2012).

Women's experience of routine USS during pregnancy has been explored by several previous studies. Garcia et al,

(2002) carried out a systematic review on women's views of pregnancy ultrasound and concluded that the ultrasound examination was a very positive experience to almost all mothers and fathers. However, information given to pregnant women before they undergo ultrasound examination may be inadequate (Garcia et al, 2002; Mitchel, 2004).

Evidence demonstrates that women are often not informed of what can be diagnosed by ultrasound, and the potential risks of diagnosis of a malformed fetus, and the implications of such findings (Larsen et al, 2000; Kohut et al, 2002; Garcia et al, 2002). A systematic review by Green et al (2004) concluded that a significant proportion of women are not making fully-informed decisions about screening and that most women are not making informed choices about terminations. They make their choices based on the reassurance and/or recommendations of the healthcare professionals.

The literature has identified reasons for pregnant women to undertake the scan, such as the need for reassurance (Ekelin et al, 2004; Bashour et al, 2005; Hatamleh, 2006), checking for birth defects and multiple pregnancy (Lalor and Devane, 2007). Research on women's experiences during ultrasound examinations has identified that USS is perceived as confirmation of new life. Ekelin et al (2004) interviewed 22 Swedish mothers and 22 fathers during the second trimester of pregnancy using a grounded theory approach to conceptualise their thoughts and feelings before, during and after the routine ultrasound examination. They reported that the basic social process was confirmation of a new life. The four categories were visualising – the evident option; overwhelming to see life; becoming a family; and reassuring. Recent studies have shown that women have realistic expectations of the purpose of scan and what it might reveal (Lalor and Devane, 2007; Athanasiadis et al, 2009).

In Greece, Athanasiadis et al (2009) explored pregnant women's background knowledge and expectations of second trimester ultrasound screening, and investigated women's intentions to proceed to pregnancy termination should a fetal anomaly was detected using a prospective, cross-section, questionnaire-based study on a consecutive convenience sample of 300 pregnant women who had a detailed, second trimester USS. They reported that the majority of participants have a correct notion about the aim of the ultrasound scan, and women's expectation is mainly anxiety reduction and the majority of the women (75.3%) were willing to terminate their pregnancy if fetal abnormalities were detected.

A recent Swedish study conducted by Molander et al (2010) interviewed ten pregnant Swedish women prior to their first routine ultrasound using a grounded theory approach. They reported that pregnant women can see their first scan as a tool enabling them to meet and connect with the baby, provide them with important knowledge and is an important step towards parenthood.

Recent literature has shown the emotional distress caused by diagnostic uncertainty and the psychological impact on pregnant women particularly if an anomaly is detected (Sommerseth and Sundby, 2010; Aune and Moller, 2012). This issue has been addressed by NICE: 'If an anomaly is detected during the anomaly scan, pregnant women should

be informed of the findings to enable them to make an informed choice as to whether they wish to continue with the pregnancy or have a termination of pregnancy.' (NICE, 2008: 20).

In Norway, Sommerseth and Sundby (2010) interviewed 22 women using a phenomenological approach to describe and understand some pregnant women's thoughts, feelings and dilemmas of choice when unexpected findings were diagnosed after a routine ultrasound examination. They reported that all women described swings between different emotions and as being in a state of continuous chaos – they had to make difficult choices regarding their own future and that of their child.

A more recent exploratory descriptive study was undertaken by Asplin et al (2012) to examine pregnant women's experiences of received information in relation to fetal malformation detected on ultrasound. They used semi-structured interviews with women who continued their pregnancy and women who chose to terminate. They reported that most of the women who expected a baby with an abnormality experienced the information given as insufficient, often misleading, conflicting, or incoherent, and sometimes negative.

There is a scarcity of evidence in Arab countries on antenatal USS. Two studies were identified; the first assesses the Jordanian women's reasons for USS using a prospective, self-selected cohort of 200 primiparous women. The results demonstrated that (n=191/200, 95.5%) of women had USS during pregnancy. The number of ultrasound scans ranged from one to 27 throughout pregnancy and Jordanian women perceived the higher the number of scans, the better the quality of pregnancy care (Hatamleh et al, 2008).

The second study from Syria explored Syrian women's views, perceptions and experience of routine ultrasound in pregnancy by using semi-structured interviews on 30 women. It reported that women had multiple scans during pregnancy and accepted its use uncritically nearly all the time. The scans gave women reassurance, which may cause them to have an unrealistic belief in technology, and may also influence doctors' profit interests (Bashour et al, 2005).

In summary, the literature indicates that ultrasound screening is perceived as a normal part of pregnancy care but that women are unprepared for unexpected findings. In Jordan it is not known if the information given can facilitate women to make informed choice about the second USS.

Method and sampling

A descriptive exploratory cross-sectional design was used to explore women's knowledge, and expectations, of second trimester USS and to explore whether women received and retained sufficient information about the purpose, capability, limitations and drawbacks of second trimester ultrasound testing in terms of meeting the requirement of informed choice. Data were collected in a teaching hospital, in the northern part of Jordan located in Irbid, which had agreed to participate. Over a period of five months (December 2010 to April 2011), data were collected by a nurse who works at the antenatal clinic.

A consecutive convenience sample was recruited in a teaching hospital in the northern part of Jordan. At the time of data collection, 375 pregnant women visited the antenatal clinic for second trimester USS. All women who were experiencing a healthy uncomplicated pregnancy, and had not had a previous high risk pregnancy, were approached. In total, 300 pregnant women agreed to participate in the study (80% response rate).

This setting was chosen as it is a large teaching hospital where second trimester USS are carried out using the four-dimensional power Doppler ultrasound (4D). It also has a leading role in shaping antenatal care in the country.

The hospital provides medical services to all university employees and their dependents, and serves as a fee-for-services referral centre for the other public and private users. The total number of births is around 3200 per year. The second USS is usually carried out between the 18th and 20th week of pregnancy in three antenatal clinics and performed by fetal medicine doctors with an average of 15 to 20 scans a week for each clinic, with each scan taking about 15 to 20 minutes. The antenatal care provider is a doctor for all women. There are no midwives working in the antenatal clinic, but there is one staff nurse and three aid nurses whose main responsibility is measuring blood pressure and accompanying the woman during the examination. Currently, there are no national policies guiding the service providers and no written information on the second USS available to women. There are no genetic counselling services for women who have a problem detected.

Ethical approval

Ethical approval to conduct this study was obtained from the institutional review board at Jordan University of Science and Technology and permission to conduct the study was obtained from the Director of King Abdullah University Teaching Hospital. Women who agreed to participate were informed about the study process, aims, benefits and were assured that their identities would remain anonymous.

Instrument

After reviewing the literature, a questionnaire specific to second trimester ultrasound knowledge, expectations and informed choice was identified in the English language and obtained from the authors (Kohut et al, 2002; Lalor and Devane, 2007). The instrument was subjected to translation and back-translation and evaluated over several phases to determine its clarity, freedom from major biases, and appropriateness. Minor revisions were made at each phase. To assess content and face validity, the questionnaire was reviewed by experts in the field of midwifery, obstetrics, epidemiology and biostatistics. The questionnaire was also discussed with six non-pregnant women, three women who had delivered a child with a birth defect and three women who delivered healthy children. The questionnaire was pre-tested on 50 pregnant women attending second scheduled USS.

The questionnaire was composed of 41 questions. The first three close-ended questions asked about women's source of information and what information they received.

One of the close-ended questions asked women to rate their opinion about usefulness of the information given in helping them making decision on a four-point Likert scale, which ranged from 'strongly agree' to 'strongly disagree'. The second asked women to rate how helpful this information was to them on a four-point Likert scale, which ranged from 'not at all helpful' to 'very helpful'. There were 13 close-ended questions, which asked about women's knowledge of antenatal ultrasound, and ten questions (five closed and five open ended) related to the concept of informed choice for antenatal ultrasound. Women's expectations of ultrasound were measured using one open-ended question and four closed questions. Eight demographic questions were included in the questionnaire.

Statistical analysis

Statistical analysis was carried out using the Statistical Package for Social Sciences (SPSS version 17). Women's knowledge and background information about second trimester USS were described using frequencies and percentages. Continuous variables were described using means and standard deviations.

The differences in the knowledge about second USS between primigravidae and multigravidae women and between women younger than 30 years and women who were 30 years old or more were tested for statistical significance using chi-square test. A P-value of less than 0.05 was considered statistically significant.

Results

Participants' characteristics

A total of 375 women attended the antenatal clinic for second USS during the study period, and 300 women agreed to participate and completed the study. All women were married and aged between 16 and 46 years, with a mean age at participation of 30 years (SD 5.47).

Around half of the participants had a university education (49% n=147/300), 17% (n=50) a diploma, and 12% (n=39) graduate studies. A total of 22% (n=64) had just school education. Half (50% n=149) were working outside their home. The majority (93%) had attended antenatal clinic regularly, but about two-thirds (64% n=189) did not attend antenatal classes and a total of 24% were primigravidae.

Provision of information on the second USS

Over half of the women (52% n=155/300) did not receive information concerning the purpose of the second USS in their current pregnancy. Of those who received information concerning the purpose of the second USS (n=145), the obstetrician was the primary source of information for (49%, n=71) the women, followed by the media (34%, n=49), and relatives and friends (17%, n=25). In terms of information received regarding second USS, half of participants (50%, n=73/145) stated that they had had some discussion about the reason for the second USS with their obstetricians. A total of 29% reported that they had only received instructions regarding the appointment time and location – only 12% received written information (leaflet).

Women's opinions regarding the information received on the second USS

Women were asked if the reason for the second USS was discussed with them at the clinic. Half of women (50%, n=73/145) reported 'yes'. A third of the sample (33% n=48/145) agreed and 22% (n=32) strongly agreed that their healthcare provider gave them information on their second USS ultrasound that helped them to understand the benefits and limitations of the USS. About 60% (n=87/145) of women reported that the information they received was 'very helpful' and 40% reported it was 'somewhat helpful'.

Women's knowledge about the second USS

The majority of women believed that the USS was undertaken to: assess growth and development (94.8%), check the baby's health (92%), get a clear photograph of their baby (89.2%), enable them to feel closer to their baby (76%), confirm their baby was 'alive' (73%), establish expected delivery date (67%), check for multiple pregnancy (66.7%) and identify the gender (63.3%). About 95% of women thought that USS can detect birth defects and 75.1% thought that USS can detect blood disorders. When women were asked if a 'normal' ultrasound result guarantees that the baby will be born free of birth defects, the majority of participants (82.8%) responded 'yes'. Data were examined by parity to assess if there was a significant association between women's knowledge and previous experience. No statistically significant differences were found between primigravida and multigravida. Crosstabs chi-square was used to assess if there was a significant association at p level = 0.05 between women's knowledge of the second USS and their age. Table 1 shows significant associations in knowledge between those who were aged less than 30 years and those who were aged more than 30 years in relation to determining the baby age (p=0.001), the expected delivery date (p=0.003), and feeling closer to the baby (p=0.004).

Women's expectations of ultrasound screening

In total, 157 women who responded to the expectations question were 'to be sure that baby is healthy/free of congenital abnormalities' (34.7%, n=99), 'to check for fetal growth/development' (13.4%, n=39), and 'for reassurance' (4.5%, n=13). Four women did not expect anything, one woman expected 'to know the diseases she has', and one woman expected to know the baby's gender. Answers to the defined 'yes/no' questions of expectation demonstrated that the majority of women (91%) felt reassured after the ultrasound examination, 87% had their expectation fulfilled and 12% felt that ultrasound did not make any difference.

Informed choice

The women's understanding of the purpose, benefits, medical risks, limitations and drawbacks of the second USS testing were evaluated using open-ended questions. A total of 223 women responded to the question: 'Why are you having your ultrasound today?' The majority (64%) of women reported reassurance as a reason for the second USS.

Only 32 (14.3%) considered screening for birth defects, and 9.8% reported that they did not know why they were having another ultrasound. There were four participants (1.7%) who reported another reason, such as: 'To make a decision about the pregnancy with regard to termination', and three (1.3%) participants reported incorrect answers, such as to check the gender of the baby.

Women's knowledge regarding the diagnostic abilities of the antenatal ultrasound scanning was evaluated using the following open-ended question: 'Do you know of any problems an ultrasound can identify in the baby?', followed by: 'If yes, please give an example.' Answers to this question were considered correct only when an appropriate example was provided.

Around half of the sample (56.4%, n=163) responded 'yes', of those only 90 women respond to the open-ended question. There were 77% (n=72/90) of women who correctly identified at least one fetal anomaly, but 20% (n=18/90) of women could not provide a valid example.

Women's understanding of the limitations of antenatal ultrasound was examined using the following question: 'Do you know of any problems an ultrasound can fail to identify in the baby?' Of the women surveyed, only 11% (n=33/300) stated that they were aware of fetal problems that could go undetected by ultrasound screening. Four problems or anomalies (diabetes mellitus, cerebral palsy, gene disorders, and blood diseases) not identifiable by ultrasound were mentioned by 7% (n=21/300) of women correctly, but three incorrect fetal problems (heart defect, Down syndrome, respiratory system defect) were mentioned by 4% of women (n=12/300).

In terms of women's understanding of drawbacks of the ultrasound screening, a total of 62% (n=186/300) responded. Almost half (42.6% n=128) of the participants stated that they did not know, and 15.1% stated that there were no drawbacks. Few women (1.7% n=5/300) reported potential harm to the developing fetus, such as heart abnormality and jaundice, if the exposure of diagnostic ultrasound was on more than one occasion, and 3% of the women (n=9/300) in the study stated that it may affect the mother's psychological status if the baby had a congenital abnormality.

Women's perception of the medical risks of the ultrasound to the woman and her baby

Although 56.4% (n=159) of the participants reported that there was no medical risk to the mother, 40.4% (n=114) were uncertain and 3.2% (n=9) stated there was a risk.

More than half of participants reported no risk to the developing fetus from antenatal ultrasound exposure. Although uncertainty regarding the possible risks of ultrasound exposure to the fetus was given by 40.8% (n=115) of women, only 2.5% (n=7) asserted that there was a definite medical risk to the baby from ultrasound testing and 6% (n=18) chose not to respond.

Discussion

Currently, in Jordan there is no requirement for obstetricians to give women information on the second

USS. However, there is an expectation that women should receive information from the doctor about this scan as the discovery of abnormality in a wanted child at a late stage of pregnancy can evoke an emotional crisis. The woman and partner have to make difficult choices regarding their own future and that of their child. Traditionally, there is no written information provided early in pregnancy by the hospital, to outline the purpose, benefits and limitations of the second USS. However, verbal information about the appointment time and the purpose of the scan is provided for women by doctors (specialists in fetal medicine). Only 48% of participants receive verbal information concerning the purpose of the second USS. Of those, only 50% (n=73/145) stated that they had had some discussion about the reason for the ultrasound scan with their obstetricians. This can be interpreted in the light of cultural factors, including the training and socialisation of doctors, expected social roles, and the medical and organisational context, rather than simply lack of time (Hatamleh, 2006). There is no evidence that discussions to determine women's needs and demands are viewed as a core component of care (Shaban et al, 2012).

In this study, approximately two-thirds of the sample reported that they did not have any discussion about the reason for the scan. This rate is seven times higher than that reported in the Larsen et al study, which stated that only 10% of participants reported that they did not receive information before the examination (Larsen et al, 2000), and Lalor and Devane (2007) found that 55% of women reported that the reason for the USS was not discussed with them at the clinic. This finding would reflect the poor communication between women and obstetricians. Of those who received information from the obstetrician as the primary source of information, 60% of women somewhat agreed and 40% strongly agreed that their healthcare provider gave them information on the second USS that helped them to understand the benefits and limitations. About 68.6% reported that the information was 'very helpful'. These findings are higher than reported by Kohut et al (2002) who found that only one-third of participants who received information considered this 'very helpful'. This may be due to cultural difference, as in developing countries the public regard for medical doctors is very high.

There was no significant association in women's knowledge of the second USS between primigravidae and multigravidae, suggesting that there is no relationship between having a previous pregnancy and background knowledge about the second USS. The focus of the second USS is to search for birth defects. Although the majority of women (95.8%) thought that the scan could detect birth defects, an alarming 75.1% thought that the scan could detect blood disorders. These findings reflect the lack of women's knowledge of what the second USS can detect and what it cannot. Moreover, the majority of women (82.8%) thought that a 'normal' ultrasound result guarantees that the baby will be born free of birth defects. However, even if the scan result is 'normal', there is a small chance that the unborn baby will still have a problem (RCOG, 2000; NICE, 2010).

Table 1. Women's knowledge and background information about second trimester USS by age

Women's knowledge	Age: <30 years	Age: >30 years	Total	P- value
Check for birth defects	151 (95.6)	148 (96.7)	299 (96.1)	0.864
Check if my baby is healthy	150 (92.0)	142 (92.8)	292 (92.8)	0.735
Check the growth and development of the baby	149 (93.7)	148 (96.7)	297 (95.2)	0.264
Get information about my baby	148 (94.3)	143 (94.7)	143 (94.5)	0.436
Feel comfortable	138 (87.9)	140 (92.7)	278 (90.3)	0.145
Get clear photo of my baby	136 (86.1)	140 (92.7)	276 (89.3)	0.159
Test for blood disorders	109 (69.0)	115 (76.7)	224 (72.7)	0.216
Check if my baby alive	109 (68.6)	112 (76.7)	221 (72.5)	0.261
Check the age of the baby	105 (66.5)	121 (82.3)	226 (74.1)	0.001
Feel closer to my baby	104 (65.8)	120 (81.6)	224 (73.4)	0.004
Identify my baby's gender	102 (64.2)	94 (63.9)	196 (65.5)	0.783
Check if I am carrying two babies	97 (61.4)	108 (73.5)	205 (67.8)	0.071
Confirm the expected date of delivery	93 (58.5)	112 (76.7)	205 (67.2)	0.003

Findings suggest that there is lack of knowledge about the limitations of the second USS. This supports findings that healthcare providers give little information to women on which they can make informed decisions about their pregnancy (Lalor and Devane, 2007; Ranji and Dykes, 2010; Asplin et al, 2012; Aune and Moller, 2012). The interpretation of such findings for Jordanian culture may be related to the social position of Jordanian women, who are not expected to ask questions of the male doctors. In addition, the antenatal clinics are crowded and obstetricians claim they do not have enough time to provide the necessary detailed information.

The answers to the 'yes/no' question of expectation with the quantification of the open-ended answers of the second USS examination showed that the significant expectation for more than half of women who responded (63% n=99/157) were 'healthy baby' or 'free of congenital abnormalities' and the majority of participants reported that their expectations had been fulfilled (86.9%) and that the ultrasound examination made them feel more secure (90.9%). These findings are in keeping with the rates and themes reported in previous studies (Kohut et al, 2002; Ekelin et al, 2004; Bashour et al, 2005; Hatamleh, 2006; Lalor and Devane, 2007). The interpretation of women's expectations seems to indicate that women are aware that the purpose of the second USS is to screen for birth defects, however, they do not wish to apply this knowledge to their own pregnancy.

Findings from open-ended questions related to informed choice indicated that, for the majority of women, their understanding about the diagnostic abilities, technical limitations and drawbacks of the second USS did not meet the requirement of informed choice.

For example, only 14.3% considered screening for birth

defects as the reason for their 18 to 20 week scheduled ultrasound, and only 11% were aware of fetal problems that could go undetected by ultrasound screening. Of those, 12 (4%) women provided incorrect examples of fetal problems (heart defect, Down syndrome and respiratory system defect).

Almost half (43%) did not know of any drawbacks. Findings suggest that the majority of women lacked knowledge in this regard, as detection rates of major heart defects is 25% (RCOG, 2000), the diagnosis of chromosomal anomalies, such as Down syndrome, needs additional investigation (Bindman et al, 2001). Our findings are consistent with previous studies, which found that women are often not informed of what can be diagnosed by ultrasound and the potential risks of diagnosis of a malformed fetus and the implications of such findings (Kohut et al, 2002; Garcia et al, 2002; Mitchell, 2004; Green et al, 2004; Hatamleh, 2006; Lalor and Devane, 2007). Furthermore, the data support the work of Athanasiadis et al (2009) who reported that the majority of women have a correct notion about the aim of the ultrasound scan, and 75.3% of women were willing to terminate their pregnancy if fetal abnormalities were detected.

Conclusion and limitation

This study has been limited due to the lack of randomisation and is confined to the north of Jordan. However, it does provide new data that are sufficient to support a recommendation for the development of a national standard to be set for a routine ultrasound anomaly scan.

This would provide parameters for obstetricians, a choice of options for women and provide purchasers with indications of how much screening could be accomplished within the available resources.

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Healthcare workers' need for support during the postpartum period to promote the success of the HIV prevention of mother-to-child transmission programme

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Abstract

Background. The increasing number of HIV/AIDS infections continues to place a huge burden on South Africa's overstretched public hospitals, which impacts negatively on the quality of health services. The North West Province in South Africa represents a typical example of this trend and public hospitals in this province have reduced the period of hospitalisation for mothers and babies during the postnatal period, to reduce the pressure on limited resources. The programme that serves these patients is referred to as the prevention of mother-to-child transmission (PMTCT) programme, which was implemented as one of the government strategies to reduce AIDS-related maternal deaths.

Method. An exploratory descriptive design using in-depth qualitative interviews was used to gain an understanding of the support needed by caregivers and health workers caring for mothers and babies in the PMTCT programme. Permission to conduct the research was obtained from the ethics committee of North-West University (NWU-0068-08-S1) and from the Department of Health, North West Province. A purposive sample was used to gather qualitative data (in-depth interviews) from seven caregivers and all nine healthcare workers co-ordinating the PMTCT programme. Both sets of data were analysed using an open coding method. Parallel themes emerged from both groups in relation to personal and financial support for caregivers, support regarding training, improvement of services and attitudes of managers.

Findings. Both sets of data indicated that support provided to caregivers and healthcare workers is minimal. A lack of counselling, financial support and empowerment through training, as well as the management of the health services and attitudes of managers, were highlighted as obstacles in the support for caregivers and healthcare workers.

Conclusion. These issues were identified as being detrimental to the effectiveness of the PMTCT programme. Recommendations for improving social support to caregivers were presented to the provincial Department of Health.

Key words: Prevention of mother-to-child transmission programme, AIDS-related maternal deaths, puerperium, postnatal care, support structures, community involvement, evidence-based midwifery

Introduction

Women represent just over half of all people living with HIV/AIDS world-wide (UNAIDS, 2010). By the end of 2009, 68% of people living with HIV resided in sub-Saharan Africa (UNAIDS, 2010) with around 5.6 million South Africans, including 300,000 children under 15 (AVERT, 2010a). An estimated 40,000 children are infected each year, born to HIV-positive mothers and so acquire the virus during pregnancy, labour, delivery or breastfeeding. This may be a reflection of ineffective implementation of the PMTCT programme (AVERT, 2010b).

According to the HIV/AIDS and sexually transmitted infections strategic plan for South Africa (Department of Health, 2007), one of the strategies implemented to reduce maternal deaths is the PMTCT programme, with the added intention to reduce child, perinatal and neonatal morbidity and mortality (Robinson, 2007). However, the guidelines for the PMTCT, issued in 2008, were not in accordance with the recommendations of the World Health Organization and so South Africa issued new PMTCT guidelines in 2010 (AVERT, 2010b). The new guidelines were expected to reduce the maternal mortality rate and the perinatal and neonatal mortality rate. As the postnatal period is the most vulnerable time for the mother-baby dyad, according to the *Saving mothers 2002-2004: third*

report on confidential enquiries into maternal deaths in South Africa (Department of Health, 2006), the following goals set by the Department of Health (2010a) for this period underpin the context of this research:

- Provide follow-up postpartum care, including a postnatal visit within three days
- Improve the quality of the mother's health and reduce mortality by including family planning counselling and cervical cancer screening
- Provide post-exposure prophylaxis for infants (Department of Health, 2010b).

Background

Caregivers in the community are trained for general home-based care, in accordance with the PMTCT programme and the *Infant-feeding field guide* (Department of Health, 2004). According to Russel and Schneider (2000), caregivers are community members who may be volunteers or receive a salary; however, they are not civil servants or professional employees in the Department of Health.

Research evidence by de Figuereda and Turata (2001), de la Porte (2003), as well as Kipp et al (2006) demonstrates that caregivers and health workers experience multiple problems and challenges in performing their roles. The

stress experienced by delivering the service is reported to cause caregivers and health workers financial hardships and oppressive workloads (Strydom and Wessels, 2006; Robinson, 2007). Inadequate support, over-involvement with HIV/AIDS patients and their families and lack of referral mechanisms have been reported to affect the personal and daily lives of caregivers and healthcare workers (Moore and Henry, 2005; Orner, 2006; Vithayachockitikhun, 2006). These manifest as loss of interest, neglect of duties, feelings of inadequacy and isolation, helplessness, guilt and irritability (UNAIDS, 2000). In addition to the above, they are faced with challenges relating to polymerase chain reaction (PCR)-testing (a rapid test for HIV), infant-feeding options (the difficult decision between breastfeeding while HIV positive versus the cultural behaviours influencing the decision of exclusive breastfeeding and, on the other hand, the safe but expensive option of formula feeding), abandoned babies, non-adherence to medication, problems in tracing contacts and mothers not coming for follow-up care.

As a midwifery lecturer accompanying students in practice, and as reported by Uys (2002), there is no formal or continuous support system in existence for caregivers and healthcare workers and this results in a high turnover of staff. The available support from healthcare workers in community healthcare centres and sites of voluntary organisations appears to be inadequate (Lai and Thomson, 2011).

Therefore, the aim of the research was to explore the phenomenon of support for caregivers and healthcare workers who render care in the PMTCT programme in the Bojanala district of the North West Province.

Methodology

A descriptive, exploratory, qualitative research design (Burns and Grove, 2006) was followed to explore and describe the lived experiences of caregivers, while implementing the PMTCT programme (sample 1), as well as perceptions of health workers co-ordinating the programme (sample 2).

The research context

The focus of this research is the Rustenburg sub-district, which falls under the Bojanala district of the North West Province of South Africa. The North West Province is one of nine provinces in South Africa, ranking fourth (11.3%) in the list of provinces with the highest HIV/AIDS incidence (AVERT, 2010b). The Bojanala district is marked by growing mining activities in the area, which attract migrant labourers and an increasing number of commercial sex workers (North West Province Department of Health, 2008), contributing to the fact that in 2006 this district had the highest HIV/AIDS prevalence (33.6%).

The PMTCT programme in the North West Province is implemented in all four districts (North West Province Department of Health, 2008), offered in 25 hospitals and 287 out of 303 permanent structured primary healthcare centres.

Healthcare centres and clinics have professional nurses trained to co-ordinate the PMTCT programme. In the sub-district, there is one HIV/AIDS co-ordinator who liaises with healthcare centres, clinics and voluntary organisations. She is also responsible for the PMTCT training in the district and

trains personnel of non-governmental organisations.

These healthcare centres, clinics and non-governmental organisations each have various home/community-based sites, which operate from permanent and mobile buildings.

The caregivers, who work on a voluntary basis, are provided with a stipend of R300 to R500 per month. The caregivers provide postnatal care to an average of 25 mothers and babies on the programme monthly (North West Province Department of Health, 2007). The sites are visited once a week by the antiretroviral team (consisting of a visiting doctor, social worker, pharmacist and a professional nurse).

Ethical considerations

Permission to conduct the research was obtained from the ethics committee of North-West University (NWU-0068-08-S1), as well as the relevant officials in the North West Province, Department of Health. Written consent was obtained from all participants.

Samples

Sample one

This consisted of caregivers implementing the PMTCT programme during puerperium in community health centres. Purposive sampling was used for caregivers in community (Brink et al, 2006; Burns and Grove, 2006) and health workers coordinating the PMTCT programme to select participants as they are knowledgeable about the issue to be researched. Participants were included if they were providing home-based care to mothers and babies living with HIV/AIDS.

Sample two

This consisted of healthcare workers co-ordinating the PMTCT programme. Participants were included if they had been coordinating the PMTCT programme in clinics and voluntary organisations.

Sample size

This was determined by means of data saturation. The latter occurs when no new themes emerge and when the amount of new data or diversity of themes is completed (Burns and Grove, 2006; Polit and Beck, 2004).

Data collection

In-depth interviews were conducted (Brink et al, 2006) with both samples and communication techniques used as recommended by de Vos et al (2005). The research question was: 'What type of support do you need to implement the PMTCT programme for mothers and babies during puerperium?' The researcher and participant were involved in the interview. Private rooms in community health centres and sites of voluntary organisations were used to conduct the interviews and to ensure privacy. All interviews were recorded and field notes taken by the researcher after each individual interview. Notes consisted of personal, observational and methodological notes (Polit and Beck, 2004).

Data analysis

Interviews with seven caregivers (C) formed a set of data, and interviews with nine healthcare workers (HCW) formed

another set of data. All the recorded, transcribed interviews were analysed using thematic content analysis and the principles of qualitative data analysis, as recommended by Tesch (1990), were used. Open coding for interviews, as explained by Cresswell (2003), was also used. After reading all the interviews, a list of sub-themes was made and similar sub-themes were grouped together. Final conclusions were made regarding the abbreviations of categories and alphabetisation of the codes. Thereafter, categories were formulated from the themes for the purpose of abstraction (Khomeiran et al, 2006).

Findings

Analysis revealed three main themes across both sets of participants: personal support for caregivers, training for caregivers and improvement of the management of the PMTCT programme.

Theme 1: Personal support for caregivers

Personal support needed by caregivers was expressed as the need for counselling and financial support. Participants from both populations emphasised the need for personal support in the form of counselling to help caregivers deal with problems they faced when on home visits. Healthcare workers reported that psychological support in some of the facilities is provided by ministers of religion, and in some areas by psychologists and social workers, however, this was apparently not realised by the caregivers. One caregiver reported:

"I deal with patients that die in my own hands and have to counsel them, I need to be counselled" (C1).

Healthcare workers supported this, commenting:
"If they have problems they won't be able to render care... from time to time they need counselling" (HCW2).

Two sub-themes emerged as personal financial support for caregivers and provision of donations to support the service they render. Both the caregivers and the healthcare workers stressed the poverty of the caregivers and the contribution of this to poor delivery of care. In a state of poverty where they cannot provide for their own children and do not have money for personal transport, they become demotivated to deliver quality care. This is supported in the literature by caregivers wanting their employers to consider care giving as an emotionally draining activity that should attract some form of incentive. Quotes from the caregivers include:

"Support that I need... to buy food... to ensure that the children receive food, if it was possible the money would be increased" (C4).

Most of the healthcare workers stressed the need for remuneration for caregivers to be improved to act as a retention and recruitment strategy, as evident by the quotations:

"If they can be given something and we can be able to retain them..." (HCW6).

"If they can be supported money-wise, they are part of health workers if they can be made to feel that they are part of us..." (HCW1).

- Provision of donations

The necessity of donations in order to render quality care were advocated for by the caregivers: *"If we can have two [vehicles], one for transferring patients and one for clinic patients"* (C7).

Theme 2: Training for caregivers

The *Policy and guidelines for the implementation of the PMTCT programme* (Department of Health, 2008) recommends PMTCT co-ordinators be available in each district with capacity to implement and facilitate training to personnel to ensure that they have the necessary skills and that there is meaningful community involvement.

Most of the caregivers identified gaps in their knowledge and identified the following areas as training needs: first aid; medication management; TB; HIV; basic nursing care; communication and counselling skills; and confidential matters. They also referred to the need for training in the specific knowledge area of PMTCT. In addition, they mentioned the need for mentoring, whereas the healthcare workers only mentioned the need for training of the caregivers in PMTCT matters.

Caregivers expressed their experiences in this regard:
"I need to be upgraded in TB and HIV as HIV and TB go hand in hand... I need basic nursing training as sometimes I assist with vital... urinalysis... I really need first aid" (C2). And another: *"I need to be trained in medication. I must ensure that treatment is taken appropriately and to encourage patients to continue with it at home"* (C5).

As well as: *"...to be trained in counselling, again this will enable us to approach patients appropriately as one will be knowledgeable about counselling and to approach patients with courtesy"* (C6).

The training needs of caregivers were clearly expressed: *"I need to be trained in PMTCT. I do not have much knowledge about PMTCT. I need it to be provided so that I know how to care for mothers and babies"* (C5).

The *Policy and guidelines for the implementation of the PMTCT programme* (Department of Health, 2008) emphasised that training in PMTCT should be ongoing and is the key component in the implementation of the PMTCT programme. The perceptions of the healthcare workers indicated problems regarding co-ordination and political commitment in training, added to the gaps in knowledge of the caregivers:

"Nobody is trained in PMTCT specifically. Training depends on availability of funds... we depend on donors for funds and budget... there is a need" (HCW1).

"Who should provide this training? ...Department of Health" (HCW7).

"Some can be taught on the spot and these workshops have to be ongoing... teaching should be practical..." (HCW2).

The need for a mentor in PMTCT was identified.

"With regard to treatment I have with TB, I consult Mr [X] with problems I encounter, but with PMTCT I do not get help. If there can be a person specifically for PMTCT... as professional nurses that I meet in this clinic are always different on different days" (C3).

Theme 3: Improvement of the management of the PMTCT programme

Although from different backgrounds and perspectives, caregivers and healthcare workers revealed their frustrations about the management and co-ordination of the PMTCT programme. Sub-themes that emerged are as follows:

- Inadequate resources

Concerns were raised about the lack of resources, including transport provided by the government (Department of Health) for patients and caregivers, as well as equipment to render proper quality care. Caregivers' concern about transport becomes obvious:

"I need transport to follow up patients and trace mothers post-delivery who are defaulting [stopping treatment]" (C2).

And: *"We travel for long distances from one area to another. Sometimes we travel until late and this poses a danger to us, we encounter difficulties to reach some of these areas... if we can be provided with transport, this will resolve our problems. It will take us to and from and we will be safe"* (C3).

- Healthcare workers are also aware of the problem:

"Transport is essential for home-visit purposes as most of the places are not reached" (HCW2).

Other resources that should be provided by the Department of Health are: formula milk (for babies of HIV-positive mothers), food parcels, medicine, protective clothing and stationary. The lack of water in the settlements is also a concern in delivery of quality care. According to caregivers:

"We need to be provided with protective clothing like gloves as we fear to be infected" (C2).

"As most of our patients are poverty-stricken, there is no food. If management can provide us with food parcels for our patients" (C7).

"Our clients hardly have water in their yards" (C1).

"I sometimes use my money to visit these families... I go to an extent of using money from my family" (C3).

- Empowerment through education

The caregivers expressed their concern for the patients as:

"They should be provided with health talks during antenatal period about PMTCT" (C2).

"There should be people who should specifically care for people without identity documents... to get grants for their children" (C3).

"These support groups will help them to be independent, to have their gardens, how to take treatment, avoid alcohol, not to use non-prescribed medication, to alleviate stress and not to visit witch doctors" (C7).

- Management to establish a caring environment

With regards to the caring environment, the two groups expressed the same concern about a caring attitude, but mentioned different aspects:

"Sometimes we try to solve problems but as a sister... you howl at us... We are not free... and this hampers us to discuss our problems... we are not open... we are not open... as a sister you are harsh" (C2).

One healthcare worker stressed the need for management (PMTCT managers) to be visible, show appreciation for the work caregivers do, as this is rare – for caregivers this is essential and of significance:

"Let them come down, visit the clinics, let the caregivers be made aware that they value the work they do" (HCW2).

Caregivers requested to be respected and treated fairly:

"We are cursed because we are not educated... we are not considered... and this place is where it is because of our efforts" (C4).

While the caregivers from the sample did not experience support, the healthcare workers perceived themselves to be supportive. They mentioned that management of health facilities organises an annual 'Care of the Carers' function, where caregivers and healthcare workers are motivated by motivational speakers.

"We've got Care of the Carers function annually... management invites motivational speakers, they motivate us on any topic and ministers from all angles motivate us, that day we are treated like queens and kings" (HCW1).

Caring for caregivers, according to Van Dyk (2007), also means that employers must create a safe working environment and should ensure that a clear policy on HIV testing, counselling and post-exposure prophylaxis is in place.

The healthcare workers participating in this research are convinced that caring in this regard is prevalent:

"...every three months we encourage them to go for TB tests and we encourage them for to go for VCT... they should know their status, especially related to HIV. If diagnosed... we send them to Wellness for follow-up and those with TB we refer them to the clinic" (HCW3).

"Specifically related to infectious diseases, infection control... how to wear protective clothes so that they protect themselves" (HCW8).

The healthcare workers realised the need for effective communication channels and support groups:

"We have regular meetings with them..." (HCW4) *"...we send them with other caregivers to meetings..."* (HCW6).

Discussion

The caregivers in the PMTCT programme are the direct line of contact with mothers and babies in their homes. The healthcare workers as supervisors/co-ordinators have occasional contact and then, apparently, more with the caregivers than patients. The 'management' is seen by both sample groups as the entity that makes policies and has to provide the infrastructure for the roll-out of the PMTCT programme.

It became clear from the results of this research that a lack of communication between these three links in the chain of implementation of the programme is experienced by the caregivers and perceived, although less so, by the healthcare workers. The problems faced by the caregivers in the research context, and the apparent ignorance of the healthcare workers of their role in it, may be due to the gap in communication between these two groups and possibly also the channel to the Department of Health.

The participants who were interviewed in this study are knowledgeable about the support needed for caregivers and healthcare workers to enhance the PMTCT programme.

The need that caregivers experienced for emotional and spiritual support was realised by the healthcare workers. They, however, perceived the visits of religious workers, social workers and psychologists to the clinics as sufficient. The problem is that the healthcare workers enjoy this support of the visits at the clinics and care centres, but the caregivers do not have the same access, because they are in the field, delivering home-based care. Orner (2006) mentioned that caregivers need counselling intervention to enable them to provide emotional

support to mothers, to instill hope and optimism, and make a difference in their mental and physical health.

The reason for the lack of financial resources to sustain themselves, as well as the means to be able to do the carework properly, is not clear. Kang'ethe (2009) stated that many caregivers are poor and have no source of income. Most of the caregivers were dissatisfied with the stipend they are receiving. A possibility could be that the Department of Health is not aware of the predicament. Different authors confirm the demoralising effect of inappropriate rewards and are convinced that the purpose of an incentive is to facilitate positive change or behaviour that will result in increased productivity (Demmer, 2006; Kang'ethe, 2009).

Healthcare workers did not raise this issue. It is also confirmed in literature that home-based care requires funds from communities and government and resources need to be effectively utilised (Russell and Schneider, 2000; UN Millennium Project, 2005). Cameroon et al (2009) found that uncertainty regarding continued funding creates anxiety and lack of security in caregivers in the work they are doing.

The caregivers explicitly expressed the need for training. They feel ill-equipped to care for the patients they have to attend to. The aspects they mention are those that would empower them with the knowledge to skillfully care for the patients allocated to them. It includes the person (mother and baby) as a whole – physically and psychosocially, as well as spiritually. Apart from training, they also want to be mentored on a constant basis. The healthcare workers who have to act as supervisors, aside from their co-ordinating role, are aware of the fact that the caregivers need training. In spite of the requirements for training by the co-ordinators as set out in the PMTCT policy and guidelines (Department of Health, 2008), the healthcare workers see this as the responsibility of the Department of Health and they do not mention mentoring.

Kang'ethe (2009) and AVERT (2009) stated that most caregivers have low or no educational background and the challenges associated with caring for HIV/AIDS clients call for some relevant skills (Orner, 2006). With little or no skill due to inadequate training, most of these caregivers are not able to ensure good quality care. Van Dyk (2007) confirmed this in research, emphasising that caregivers are incompetent in counselling skills and lacked confidence as HIV counselling is complex and is different from other types of counselling.

Both sample groups in this research agree that the Department of Health, as the managing entity of the PMTCT programme, has the responsibility to provide the infrastructure and resources to enable proper care of the mothers and babies. In this context infrastructure entails transport for caregivers, healthcare workers as well as patients, when in need. Provisions to sustain patients in utmost poverty, as well as equipment for caregivers to render proper care and protect themselves, is important. Infrastructure to empower the community where the programme is rolled out, by education on PMTCT, is also seen as the responsibility of the Department of Health.

Lack of transport is identified as a gap in the rendering of quality care (Orner, 2006; UNAIDS, 2000; Whittier et al, 2005). Jones et al (2005) confirmed that elsewhere in South Africa, the issue of access to transport has been a factor affecting patients'

ability to seek health care timely, which affects the success of PMTCT services, especially in remote areas.

Quality care is compromised in clinics and homes as caregivers are not provided with equipment to handle patients adequately and they are exposed to HIV and TB infections (Akintola, 2006; Van Dyk, 2007). Van Dyk (2007) added that most of the caregivers felt pity for their patients and gave them some of their own money. They even provided them with their own clothes. Education of communities about PMTCT was highlighted in a presentation by Rasmeni in a roadshow on PMTCT awareness (North West Provincial Government, 2007).

The need for provision of identity documents to mothers who are unable to access grants had been addressed by the Department of Social Development, however, it could not be overcome because without an identity document, grants could be issued fraudulently (Ntlama, 2007). According to AVERT (2011), support groups could be facilitative in disclosure of the mothers' status and this will lead to better uptake of treatment in the PMTCT programme.

Management to establish a caring environment

Supervisors of caregivers should treat them with integrity, there should be sound mutual relationships between caregivers and there should be mutual respect between caregivers and supervisors, as they represent management (Booyens, 2002).

On the theme of 'a caring environment', the caregivers expressed the need that supervisors, healthcare workers as co-ordinators of the PMTCT programme be more visible, caring and respectful towards them. The healthcare workers, on the other hand, are of the opinion that they, as supervisors, do receive the recognition and support.

The need for supervision and guidance of caregivers is also clear in literature where Van Dyk (2007) identified that caregivers often experience frustration, anger, inadequacy and helplessness because of organisational factors due to lack of practical support of supervision and mentoring, and Nair and Campbell (2008) indicated that caregivers lacked skills and channels to liaise with their supervisors for support, regular feedback and guidance.

Rewards in the form of certificates, bonuses, trophies and tokens should be provided to caregivers as a form of recognition. Various authors (Van Dyk, 2007; Kang'ethe, 2009; Ehlers and Lazenby, 2007) reported on the positive aspects of incentives for caregivers. Van Dyk (2007) emphasised that communication between the caregivers and employers should be open and frequent and meetings to discuss policy and sharing of problems are important. Working as a multidisciplinary team is an effective way to protect staff from stress.

Recommendations

Personal support for caregivers

The Department of Health, being responsible for the infrastructure for the implementation of the PMTCT programme, should provide the resources to employ a clinical or industrial psychologist to facilitate peer-group support for caregivers on a regular basis. These facilitation sessions should be co-ordinated by the healthcare workers. The psychologist could also be available for individual sessions by appointment

(Torpey et al, 2010). This could be a stress reliever, to avoid burnout and increase the morale of caregivers (Cameroon et al, 2009). Caregiver networks are recommended by Pallangyo (2009) and could be of value. These support groups will encourage caregivers to share their feelings and experiences associated with their work and enable them to identify ways of coping with stress, along with others who are in the same boat (Demmer, 2006; Russel and Schneider and, 2000). Caregivers should be integrated in the health system with application of the Labour Relations Act of 1995 considered (Bezuidenhout et al, 2007) to protect against unfair labour practice. This will ensure that caregivers are provided with better remuneration, which can be improved regularly and secured, similar to those of other public servants. Agreements with local sponsors, like the mining companies, to adopt some of the sites for home-based care as a commitment to their social responsibility, could alleviate the financial burden of the caregivers.

Training for caregivers

Training, according to a fixed schedule, with awards for attendance as well as competence in skills achieved, could motivate the caregivers to report for training on a regular basis. To strengthen the realisation of the healthcare workers, of their teaching role as professional nurses, recognition by the Department of Health should also be given by proof of their commitment to the training and the mentoring of the caregivers.

The new *South African anti-retroviral treatment guideline* (Department of Health, 2010b), which came into effect on 1 April 2010, necessitates emphasis on training of caregivers in PMTCT. The training should be planned to empower the caregivers with skills as well as knowledge on all aspects they encounter in their contact with the mothers and babies in implementing the PMTCT programme. Therefore, the caregivers must also be consulted to incorporate their needs for skills and knowledge in training and refresher courses (Government of the Republic of South Africa, 2001).

Adequate resources

A list of essential equipment should be developed, and an ordering system to ensure a consistent supply of necessary

equipment and supplies. A specific person/department should be appointed to manage supplies and kits so that they are constantly available. Transport for the caregivers to their patients' homes and to the clinics is a necessity, not a luxury.

Basic provisions for poverty stricken homes is necessary for the success of the PMTCT programme. Food security in the form of food parcels should be provided to enable them to adhere to treatment and alleviate poverty (Pallangyo, 2009). Criteria should be set by means of which individual households are assessed for vulnerability in order to receive food parcels.

Caring attitude to be displayed

For caregivers to accept authority, they expect their supervisors to project a caring attitude towards their subordinates. Health and Development Networks and SAFAIDS (2008) suggest that uniforms should be provided to caregivers to create an identity and visibility within the community. It also makes it easy for clients to approach and open up to caregivers about their HIV status.

Improvement of communication

Strengthening communication as recommended by Bezuidenhout et al (2007) by creating forums for discussing and trying to solve work problems. Roadshows once or twice a year will improve communication. All stakeholders should have a platform to share their specific challenges and contributions.

Conclusion

The policy and guidelines for the PMTCT programme is clear and sound for implementation. The lack of support needed by caregivers and healthcare workers who have to implement PMTCT on ground level appears to be mainly because of insufficient communication among the different levels of management of the programme. If these recommendations could be communicated to the Department of Health, as initiators of the PMTCT programme, caregivers and healthcare workers could be adequately supported. The quality of care rendered will be affected through the successful implementation of the PMTCT programme and will result in a decrease in the maternal and perinatal mortality rate.

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An ethnographic account of the beliefs, values, and experiences of rural Swazi women during childbirth

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Abstract

Objective. To explore and describe the values, beliefs and experiences of rural Swazi women regarding childbirth.

Method. A retrospective ethnographic explorative inquiry was utilised, and snowballing sampling method used to recruit participants. Unstructured interviews of 15 rural Swazi women were conducted and recorded using audio-taped face-to-face interviews. Thematic analysis of transcribed and translated interviews was undertaken in conjunction with analysis from field notes.

Ethical approval was received from the human ethics committee of the university where the researcher was enrolled. Permission to conduct the study was obtained from the village chief by way of a signed plain language statement, after providing all the necessary information relating to its nature and purpose. The nature of the study was also verbally outlined to the rural health personnel before an invitation to assist the researcher in accessing the sample was extended to them.

Results. Findings were categorised into nine themes: choice of venue for birthing; remaining active during labour; freedom to assume position of choice; hand inserted if a problem; attendant at birth; leaving perineal tears to heal themselves; traditional medicines used during labour; delayed clamping of the cord and; opting for home births without any assistance.

Implications. Rural Swazi women engage customary explanations and practices commonly at odds with the current biomedical model operating in the formal health sector. Consequently, these women often have unmet expectations during labour which yields dissatisfaction with their childbearing experience. This indicates that there is the need for a more culturally appropriate approach to both the education of midwives and also the provision of midwifery health services in Swaziland.

Key words: Childbirth, rural maternal care, beliefs, birth practices, culture, ethnography, evidence-based midwifery

Introduction

The values and beliefs of Swazi women regarding their childbirth practices have not been explored. This lack of research has a bearing on the quality of care rendered by health services and the extent of cultural accessibility and acceptability of the care. The efficacy of maternity services in Swaziland is, therefore, potentially limited by the lack of cultural knowledge of the rural women's needs and beliefs. This is reflected in part by the fact that while over 90% of Swazi women attend antenatal care, less than 50% of these women actually have their births in hospitals (Zwane, 2005). This paper presents the childbirth section of the findings from a larger study on values and beliefs of Swazi women underpinning their childbearing practices during pregnancy, labour, and the postpartum period.

Literature review

Culture has been defined to include the beliefs, values, practices and objects that mean something to members of that group, (Schim et al, 2007; Munhall, 2007). Therefore, investigating the values and beliefs of women regarding their childbirth practices directly translates to investigating the culture in which childbirth occurs. This is of importance because culture permeates all aspects of healthcare, making the recipients' understanding of values and beliefs of the care crucial (Schim et al, 2007).

Understanding childbirth values and beliefs of specific cultural groups promotes professional midwives' practice and enables the delivery of culturally competent care which is acceptable and accessible to women (Pairman and McAra-

Couper, 2006).

Traditional health beliefs and values of women regarding childbirth tend to underlie their birth practices and often differ from that of contemporary biomedical healthcare systems. These traditional beliefs have varying effects on different aspects of health beliefs and values. For example, in East Africa, rural women favoured bearing numerous children because of their cultural imperatives for larger families (Blair, 1991). This was contrary to modern bio-medicinal health promotion strategies that encouraged fewer children and spacing childbirth, thereby classifying grandmultiparity a high risk (Coates, 2009; Blair, 1991). In Zimbabwe, an ethnographic study attributed complications during labour to the women's dishonourable and immoral behaviour, rather than to physiological and scientific reasons common to biomedical beliefs (Mutambirwa, 1985). Therefore, the need to consider the specific cultural practices, values, and beliefs when planning and administering maternity health care cannot be over-emphasised (Blair, 1991). No such studies have been undertaken in Swaziland.

Several studies in differing cultural settings have shown the importance of engaging in culturally competent and safe care (Chien et al, 2006; Gharaibeh et al, 2005; Braithwaite and Williams, 2004). For instance, women of Asian origin living in rural Tasmania in Australia were found to be reserved and shy when it came to accessing health services for their childbirth due to their traditional cultural beliefs that emphasised modesty (Hoang et al, 2008). Consequently, they were embarrassed and reluctant to express their needs to healthcare providers during childbirth. Meanwhile, the

health providers were not aware of this traditional cultural predisposition and therefore did not proactively offer care. There is little similar research undertaken in Africa, though in Zambia the lack of cultural sensitivity in hospitals was the reason women prefer to birth at home (Maimbolwa et al, 2003).

The conclusion was that a woman's traditional belief and expectations commonly differed from those of their healthcare providers' biomedical operational frameworks. There has been no such research undertaken on Swazi women.

Method

A retrospective ethnographic explorative inquiry was utilised to explore the beliefs, values and experiences of Swazi women to childbirth. Ethnography is a useful approach in investigating cultural concepts such as values, beliefs, and practices (Wolf, 2007; Speziale and Carpenter, 2007).

A networking/snowball sampling method was utilised to recruit participants for the study. The snowballing sampling method was used because of the rough geographical terrain and the country's poor road infrastructure, which rendered potential participants hard to reach. The researcher approached the village chief, who introduced the researcher to the rural health motivators. They then identified potential participants, who then told other women, who would inform the rural health motivator of their interest, who would, in turn, contact the researcher to introduce them. A total sample of 15 women was recruited. Participants were eligible to enter the study if they were female, aged between 18 and 40 years, lived in the selected village, had at least one child, and whose last born child was not more than two years of age. Women that had co-morbidities or were primiparous were excluded.

Data were collected using audio-taped face-to-face interviews. An unstructured interview guide with one open-ended question and probing was used (Burns and Grove, 2006). Women were asked to tell their birth stories. The interview guide allowed women to tell their stories in the way they felt most comfortable, while probing facilitated verification, clarification, and response to key issues as well as guided the interview process (Speziale and Carpenter, 2007). Interviews lasted approximately 45 minutes and were conducted in locations suitable for the participant, such as in their homes, at the village royal kraal, at enkhundleni, which houses the village development project's offices, and in open fields near their homes. As the researcher engaged the participants in interviews, cultural aspects emerged such as language, thought patterns, beliefs, values and knowledge. Non-verbal cues provide aspects of culture such as a participant's emotions, mannerism and gestures. These were all recorded by the researcher following the interview and analysed together to increase the veracity of the findings (Munhall, 2007).

Ethical approval was received from the human ethics committee of the university where the researcher was enrolled. The right of participants to self-determination and autonomy was ensured by the provision of a detailed verbal explanation of the nature, scope, and purpose of the study

before invitation to participation. Permission to conduct the study was obtained from the village chief by way of a signed plain language statement, after providing all the necessary information relating to the nature and purpose of the study. The nature of the study was also verbally outlined to the rural health personnel before an invitation to assist the researcher in accessing the sample was extended. At all levels of consent, the right to withdraw participation, at any point throughout the data collection process, was made explicit. At the end of each interview, the researcher gave each participant tokens of appreciation. These were small parcels of uncooked kidney beans, candles, matches, and brown sugar. Rural health motivators who assisted in the snowball recruitment process were also given these tokens of appreciation.

Analysis and interpretation

The researcher reviewed the recorded audio-tapes at the end of each datacollection day to reflect and familiarise herself with the data. Field notes in the form of observations and reflections were compared and contrasted simultaneously in order to conduct concurrent modification of research questions in light of evolving emergent themes (Speziale and Carpenter, 2007). Audio-taped data were transcribed in SiSwati, with data compiled from non-verbal cues included in the researcher's notes (Denzin and Lincoln, 2005). The transcribed data were translated to English as closely as possible. An independent SiSwati speaking researcher was engaged to listen to audio interviews and compare them with translated data to confirm truthfulness. Themes were identified from each manuscript, and then compared across manuscripts and subsequently rechecked for concurrence and member-checking with research supervisors. Similar themes were clustered together to form categories that facilitated description and implicated information (Patton, 2002). Taking the findings back to the participants for verification was not possible because of time constraints and language barriers.

Findings

Women who participated were all aged between 18 and 40 years and were married housewives. The majority (n=13) lived in their marital homesteads with their in-laws, and the remaining two lived in new homesteads that they had built with their husbands, away from the in-laws. Generally, the literacy level was low, as only three of the participants had completed their secondary school education. Most had only attended primary education while some had no formal education at all. All were multiparous women and the number of children ranged from two to 14.

Nine themes emerged from the data analysis. These included: choice of venue for birthing; remaining active during labour; freedom to assume position of choice; hand inserted if a problem; attendant at birth; leaving perineal tears to heal themselves; traditional medicines used during labour; delayed clamping of the cord; as well as opting for home births without assistance. These will be discussed in detail using quotes to illustrate the women's words.

Participants expressed a variety of preferences for where they would prefer to birth their baby, with different reasons

for their choice. These preferences varied from birthing at home or hospital to not being concerned about the venue. Many expressed strong reasons for their choice, including what was considered as unsatisfactory care in hospital. A confounding factor was the ability to access hospital facilities due to transport issues. There was a strong belief, however, in birth being a normal life event and something that the woman could do.

For those who had a preference for birthing at home, the reasons given for this choice was either because they had 'always had home births' and considered this 'normal', or that they felt 'cared for and comfortable at home'. For example: "...I love giving birth at home. I get very good care from those attending to me [chuckles]..." (participant XV).

A reason for choosing home birth was previous experience of poor treatment in the hospital and this was described by one woman in the following statement: "...I have given birth to most of my babies at home. Only one of my children was born in hospital. This was the first born baby... and did not like the treatment that I got there.... The first experience of labour is terrifying because you do not know what to expect. So I kept calling the nurses a lot during the labour, which annoyed them... I decided to have my second baby at home after this as I did not want to face the rude nurses again..." (participant VIII).

Another reason for avoiding hospital birth was fear of being alone and confined to bed during labour. The lack of support women received while in hospital is highlighted here: "...they [midwives and other hospital staff] kept saying that I should breathe and lie down on my side. I have learnt that at the hospital, they do not hold women when in labour. That is what I did not like. Even when you say that you feel like you are getting tired and losing strength, they do not hold you. They keep telling you what you should do... It is like you are a prisoner..." (participant XV).

There were some participants, however, who cited no special preference for birth place (hospital or home). These women felt that both were appropriate birth places in which to have a baby. However, birth was seen as a natural occurrence, regardless of venue. For example: "...I think birthing in hospital is the same as birthing at home because you still do the job yourself. No-one does it for you" (participant IX).

A few women chose hospital because they felt safer, everything was available if there were any complications. There was no means of getting to the hospital if they decided to birth at home and emergency care was needed. One woman commented: "I love giving birth in hospital. I wouldn't do it anywhere else. I feel safe when I birth in hospital... I do not ever see myself birthing at home... In the hospital if problems arise in the labour, for instance, if a baby comes with its feet first, they can deal with it. Here at home, if such a thing happened, what would they do to help me? Nothing. To make it worse, we do not have a car that my in-laws could use to rush me to hospital. You can see for yourself how rural and remote this place is..." (participant XIII).

Fear was another issue: "I am afraid of giving birth at home. It is better in the hospital because there are nurses to care and look after you..." (participant III).

Some women did not have a choice because the actual venue for birthing was limited by geographical location at the onset of labour: "I had intended to give birth to all my children in hospital... It is just that the village does not have good roads on which to travel by car. You have to walk on the wild fields, over the mountains, and across rivers. It is quite far to walk on foot, especially when you are in labour... What I would do is to walk on foot to the next village beyond the river, to my biological mother's homestead as soon as the labour starts. Upon arrival, I would take me to the hospital in Mhlume in my uncle's car to have my baby..." (participant XIV).

All of the women in the study regarded ambulation during labour as important and felt it contributed to their labour experience and outcome. Women that had home births reportedly kept walking throughout their labour. Those that had hospital births reported deliberate ambulation before hospital admission. They stated that ambulation assisted the baby in its passage down the birth canal. They believed remaining still, in one position, made the baby lazy, thus prolonged the duration of their labour: "...When the pain got intense, I would sit down. When it got better or subsides, I would stand and walk about again. I normally try to remain active so that the baby can also move... The baby should be encouraged to move down along the birth passage so that it can be born. When you are lazy as the mother of the baby in labour, and just keep lying down or sleeping, the baby also sleeps in the womb... It is important to walk, so that the baby can get its exercise" (participant XI).

Walking was important too: "...I usually move about and walk... I also walk a lot on my way to the hospital..." (participant XIII).

All participants that had home births reported assuming a position of their own choice as guided by their instincts when giving birth. The majority of these women reported using the kneeling position to give birth. Some women reported a preference for the sitting position while leaning against a wall or being physically held in support by those attending to the birth: "No one tells you what position to take; you feel it in your body. Your body tells you how to position yourself and hold that position as you push the baby out... Some people prefer to kneel, others to be held, while others prefer to be left alone and not touched or held as they push the baby out" (participant IX).

"I was on my knees kneeling down [when giving birth]. Being in this position was just reflexive. I just found myself kneeling down without anyone telling me to do so... I felt a strong urge to bear down and push. I then went behind the door and knelt, and the baby came..." (participant VIII).

Women who had had a hospital birth appreciated professionally trained health care individuals. The following quote illustrates this: "...It is better in the hospital because there are nurses to care and look after you..." (participant II).

In contrast, other participants reported having had home births assisted by either their mothers' in-law; or biological mothers or other women in the village. These participants felt that their birth attendants did not have to be formally trained to assist them in their birth and the following statements illustrates this: "...my mother will treat me well. Even when I

tell her to hold me because of the pain she would do it gladly and lovingly. It would sometimes happen that I would feel like I am losing strength during labour. I would then call out to my mother to hold me and she would. I always knew that she would treat me well. That is why I love giving birth at home. I get very good care from those attending to me..." (participant XV).

"... my mother-in-law would understand when I said that the baby is at hand" (participant IV).

"...either my mother-in-law or my aunt would tend to me during a birth at home. I birthed one of my babies on my way to fetch firewood once. My aunt was with me then and we were on the way to gather the firewood together. The other times, my mother-in-law assisted me. On the birth of the sixth baby, the neighbours also came in to give a hand..." (participant XIV).

Some of these participants reported assisting other women in home births in the village. These women professed to be self-taught or gifted with special powers in order to attend to childbirth. For example: *"...I have, however, tended to many women in the village. I suppose it is because I am naturally gifted in assisting women when giving birth... I have never been trained by anyone. I am self-taught in this. I just know that I have to put plastic bags on the floor, throw a blanket on top, and use this as the place on which the mother will birth the baby..."* (participant XII).

Many of the women used traditional medicine techniques at various times and for various reasons during their labour including masheshisa and sigidzi at the onset of labour to accelerate the labour. This medicine was taken by women who had home births as well as those that had hospital births. In addition, the Kubhunyisela ritual was undertaken to open the passageway, thus facilitating a normal birth. The following describes their use in more detail: *"...Masheshisa helps in speeding up the labour. Labour is painful, so you suffer less when it takes a shorter time period such as when you have taken masheshisa... masheshisa is taken as soon as the labour begins"* (participant XV).

In addition, some women used sigidzi medicines and the kubhunyisela rituals: *"...there is also some medicine which you take only at the beginning of labour. This medicine is solely for the purpose of speeding up labour to facilitate a quicker birth... it is toffee-like and is called sigidzi... when I feel that the baby is about to be born, I do the kubhunyisela ritual using traditional medicine that I would have been given by the in-laws... burning coals would be taken from the fire, and some medicine put on it. I would then kneel down and open my legs in front of the smoking medicine. The smoke would enter through my private parts to open the birth passageway for the baby. After this, I definitely would have a normal birth that is quick and without problems..."* (participant XVI).

Other traditional medicines used are described in the following: *"...To open the way for the baby to come easily. As soon as the labour starts, I would put a hot coal on a piece of broken pottery (ludgengelo) and add the libaso. I would then open my leg and ensure that the smoke moves towards my private parts..."* (participant VI).

Discussion

Most women in this study expressed a preference for home births – a finding similar to previous research in Zimbabwe by Kambarami et al (2000). Reasons for the home birth preference by these rural Swazi women included the availability of support options during labour, such as: being held in support, being allowed to assume their position of choice when giving birth; respectful attitude of attendants towards birthing woman; the freedom to listen to one's own body in labour and respond to it or communicate it rather than being told what was happening; and the liberty to ambulate during labour. The implications are that Swazi women had cultural expectations of appropriate care in labour. However, these cultural expectations were often not met in the modern healthcare system (hospitals), possibly because the healthcare professionals were either unaware or unable to accommodate. Failure to meet these expectations was perceived by the women as poor quality care, thus discouraging them from seeking of professional healthcare in subsequent pregnancies. There were, however, some women who preferred to birth in hospital because they felt safe and in a place where if complications occurred it could be dealt with. In addition, gaining access to hospital in an emergency was not possible for some women, so they choose to birth in hospital.

Moreover, these Swazi women demonstrated a cultural preference for personal control and autonomy during labour and birth, and for decisions on how to behave in labour to be left up to them. This cultural practice was in direct conflict with the biomedical culture, where health professionals were in control of the labour and birth, telling the woman how to behave and what labour positions to assume (Buckley, 2005; Manderson, 1994). This suggests that the women valued the quality of care they received and weighed it up by how well it incorporated their cultural expectations. Matthews et al (2005) similarly found that women's perception of the quality of care received during labour influenced the women's decision to use modern healthcare facilities for subsequent births.

Contrary to traditional hospital biomedical practices, current scientific research on labour and birth supports the informed choice and the ability to exercise autonomy of women during labour and birth as supported by the woman-centred care model (Jones, 2005). It has since been proven that the supportive role of health professionals requires that women be allowed to exercise their behavioural instincts during labour thus maximising the chances of a normal birth free of interventions (Foureur, 2008). A mother's instinctive slight leg movement or change from one position to another, for instance, may be all that is required to move her pelvis such that diameters of the outlet are widened enough for the fetal skull to navigate and be born during labour (Buckley, 2005). Such findings provide strong critique of the biomedical culture of control of birth (Manderson, 1994). Furthermore, traditional birth practices commonly have biomedical relevance in bringing about positive outcomes, thus emphasising the need for professional midwives to be aware of, and accommodate, the culture of women under their care. The participants desire to ambulate during labour and choose positions to birth in reinforces this point.

Some of the women who had their first babies in hospital reported changing their minds after unsatisfactory treatment from healthcare workers, which they felt translated to poor care. These women reported being mistreated by birth attendants who they identified as nurses in the hospitals during labour and birth. Communication patterns used by the midwives and nurses tending to labouring women were expressed as repressive and tyrannical by the women rather than friendly and collegial. The women reportedly felt devalued by these attitudes and felt discouraged from having subsequent births in health facilities. These women deliberately birthed subsequent babies at home under a partnering collegial environment with traditional birth attendees. In concordance with this finding, a survey by the Central Statistics Office (2007) in Swaziland found the proportion of children born at home increased with the birth order of the child. For example, 14% of first-born babies were born at home while 25% of second- and third-born babies were born at home. This figure then increased to 31% as fourth- and fifth-born babies were birthed at home, while 44% of birth orders six and over were birthed at home. These results could be attributed to this study's finding that Swazi women birthed in hospitals initially but were discouraged by the quality of care and communications patterns of healthcare personnel.

Such findings suggest that midwifery practice has an urgent need to review its model of maternity services delivery to address the current shortfalls in client-midwife communication and client satisfaction with care. Unsatisfactory client care impedes utilisation of professional midwifery care and biomedical services. Recognition of the centrality of values and beliefs minimises confusion that can be caused by conflicting expectations and misunderstandings between childbearing women and their health service providers (Rice, 2000). Moreover, acknowledgement and recognition of the women's values and beliefs enables a partnering relationship between health providers and childbearing women, which has been identified as necessary for optimal childbirth outcomes (Jones, 2005; Pairman and McAra-Couper, 2006).

The reported study showed the country's poor infrastructure discouraged women from seeking access to biomedical maternity services by rendering the services inaccessible. These included: absence of roads, unavailability of transport during labour; distance from birthing hospital facilities; rough geographic terrain, unaffordable private transport costs; scarcity of cars in the community. All this contributed to babies being born away from the health facilities in the absence of healthcare professionals, even when the women had intended to give birth in the country's health facilities.

Some of the women reported that their choice of birthing place was dependent on their location during the time of the onset of labour. If they were in the village, they reported no choice but to birth at home because of transportation issues or expenses associated with the journey. A recommendation would be to establish satellite midwifery clinics in strategic locations with sound information technology resource that networks with more specialist metropolitan services in order to provide more informed care for the hard-to-access women in the community.

Where the onset of labour was in an urban area, women reported birthing in health facilities where a home birth had been preferred because of limited means to get home for a birth. This implies that poor infrastructure and limited resources remain barriers that limit birth choice. Such predisposition challenges the centrality of the midwifery theory of women-centred care, where women have the liberty to plan their birth pathway safely under the supervision of a professional midwife (Downe, 2008; Jones, 2005). Similar challenges have also been reported in other studies of cultural birth practices of women in developing countries (Thaddeus and Maine, 1991).

The time allocated to conduct this study was limited. This limited the time period spent in the field collecting data thereby denying the opportunity to follow participants through their childbearing experience. The opportunity for the researcher to gather data through first-hand observation of events was therefore lost. In addition, the sample size of 15 was small and non-representative of the general population. Furthermore, the demographic characteristics of the sample were uniform, involving only unemployed low literate married women.

Recommendations for education and practice

- Formal health service delivery practices such as instructing women to lie still in one position in labour need to be reviewed as they are not culturally appropriate for Swazi women.
- The midwifery approach to childbirth care should focus on women's beliefs and values to foster a desirable collegial partnering relationship between midwives and the women.
- Midwifery education needs to incorporate the specific cultural practices and expectations of local women during childbirth ensure cultural safety in course-work modules.
- Community midwifery should be strengthened to consider satellite midwifery clinics to improve accessibility.
- Further research is required to investigate the birth practices of the Swazi women, including rituals and traditional medicines.

Conclusion

This study has shown that rural Swazi women utilise some biomedical maternity services while still strongly adhering to traditional labour practices and beliefs.

These women harbour cultural expectations about childbirth that are often unmet by midwives trained in the biomedical system of care. Consequently, dissatisfaction of Swazi women with the birth experience and a subsequent decline in utilisation of biomedical services occurs, as evidenced by the increase in home births that occur with the higher birth order of the child. This highlights the necessity to incorporate cultural components in maternity care to promote acceptability and accessibility of biomedical services.

The study also points to a need to strengthen community midwifery in order to bring professional midwifery care to Swazi women thereby facilitating access in the face of inadequate infrastructure and scarce resources. Further research is required to study in detail the traditional medicines and rituals practised by the Swazi women to determine their mechanisms, efficacy, and safety.

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Information for authors

Evidence Based Midwifery is published quarterly and aims to promote the dissemination, implementation and evaluation of midwifery evidence at local, national and international levels. Papers on qualitative research, quantitative research, philosophical research, action research, systematic reviews and meta-analyses of qualitative or quantitative data are welcome. Papers of no longer than 5000 words in length, including references, should be sent to: rob@midwives.co.uk in MS Word, and receipt will be acknowledged. Suitable papers are subject to double-blinded peer review of academic rigour, quality and relevance. Subject area and/or methodology experts provide structured critical reviews that are forwarded to authors with editorial comments. Expert opinion on matters such as statistical accuracy, professional relevance or legal ramifications may also be sought. Major changes are agreed with authors, but editors reserve the right to make modifications in accordance with house style and demands for space and layout. Authors should refer to further guidance (RCM, 2007; Sinclair and Ratnaik, 2007). Authorship must be attributed fully and fairly, along with funding sources, commercial affiliations and due acknowledgements. Papers that are not original or that have been submitted elsewhere cannot be considered. Authors transfer copyright of their paper to the RCM, effective on acceptance for publication and covering exclusive and unlimited rights to reproduce and distribute it in any form. Papers should be preceded by a structured abstract and key words. Figures and tables must be cited in the text, and authors must obtain approval for and credit reproduction or modification of others' material. Artwork on paper is submitted at the owner's risk and the publisher accepts no liability for loss or damage while in possession of the material. All work referred to in the manuscript should be fully cited using the Harvard system of referencing. All sources must be published or publicly accessible.

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News and resources

Apply for scholarships

Wellbeing of Women, in association with the RCM, has announced grants available for research in pregnancy and birth or quality of life issues. The entry-level research scholarships are to provide funds to enable trainees to be exposed to a research environment, or to obtain pilot data for bids for definitive funding. Applicants will normally not have been previously involved in substantial research projects or have demonstrated a strong research profile through primary authorship of published research. Scholarships are a single payment up to a maximum of £20,000, with one scholarship reserved for midwives. Awards must be undertaken in the UK and the closing date is 14 September 2012. Details are available from: www.wellbeingofwomen.org.uk.

Early warning system study

Researchers are conducting a UK-wide survey of midwives' use of early warning systems (EWS), also known as MEOWS. All directors and heads of midwifery will be invited to participate, and responses will help to map out current use of EWS. It will also look at modifications that may have been made to account for maternal physiology and any problems associated with use. The researchers, from King's College London, hope that their work may ultimately lead to a reduction in maternal mortality. The findings of the survey are hoped to be presented later this year. For further information on the survey, please email Sarah Beake, King's College London, Florence Nightingale School of Nursing and Midwifery: sarah.beake@kcl.ac.uk

Wales research branch to open

A Welsh branch of the Doctoral Midwifery Research Society is to open later this year. The launch will take place on 23 November at the Glamorgan Building of Cardiff University. Speakers at the occasion will include Professor Jean White, the chief nursing officer for Wales, Helen Rogers, RCM director for Wales, and EBM editor Marlene Sinclair. Topics will range from securing funding, to user involvement in research, to the post-doctorate experience. The RCM and Cardiff University are sponsors. Further details to be announced soon.

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