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Eye movement desensitisation and reprocessing therapy: a ray of hope

Key words: Birth trauma, fear of childbirth, PTSD, EMDR, evidence-based midwifery

It is impossible to ignore the growing concern over the mental health and wellbeing of women in childbirth. Fear of childbirth (FoC) is a recognised disorder within the *Diagnostic and statistical manual of mental disorders* (American Psychiatric Association, 2013) and the international classification of diseases (WHO, 2010). It affects an estimated 10% of pregnant women, leading to an increased CS rate and a negative impact on the health of the mother and baby. While the royal colleges are working to tackle mental health issues in pregnancy and NICE guidelines have been published, there is a need for researchers and educationalists to explore new approaches to preventing and treating childbirth trauma (NICE, 2016).

The statistical data on prevalence of PTSD varies and is often quoted at around 3%. However, a recent Harvard research publication estimates we now have a rate of between 4.6% and 6.3%, while a worrying 16.8% of women appear to be showing symptoms of PTSD, such as numbing, flashbacks, and avoidance (Dekel et al, 2017). The authors report the key predictive factor is 'a negative subjective childbirth experience'. Another systematic review and meta-analysis reported the average prevalence of PTSD to be 4% in postpartum women generally and 18.9% in high-risk women (Yildiz et al, 2017). The outcomes of PTSD can affect mother-infant attachment and the cognitive development of the child. Other negative consequences include job loss, social isolation, psychological disorders and family disruption.

One of the gold-standard trauma-focused psychotherapies for treating PTSD is eye movement desensitisation and reprocessing therapy (EMDR). It is effective at treating specific phobias but little is published about the pregnant population. EMDR is a person-centred, trans-diagnostic, integrative psychotherapy approach recognised by Francine Shapiro in 1989. It is based on an adaptive information processing (AIP) model and helps people who have experienced trauma from any life event to process the memory by using an eight-phase, three-pronged evidence-based approach (Shapiro, 1995). It unlocks the memory using bilateral stimulation. The person recalls the memory of the event with its distressing parts and focuses on holding the memory in their mind (present) while they engage in a series of right to left eye movements designed to stimulate the brain to fully process the memories into the past. WHO recommends it as an effective therapy for managing stress-related conditions (WHO, 2013) and NICE recommends it as a therapy for managing PTSD symptoms (NICE, 2016).

The application of EMDR in midwifery needs to be further explored. A quick literature search provided reassurance that research is underway with the publication of a protocol for an RCT in the Netherlands called the OptiMUM-study, by Baas et al (2017). The study aims to determine whether EMDR therapy is an effective and safe treatment for pregnant women with childbirth-related PTSD or FoC. However, it is just starting, so it will be some time before we have the evidence. I also found a published protocol in the *BMJ* for a systematic review

by Futura et al (2016) on the effectiveness of trauma-focused psychological therapies, compared to the usual postnatal care for treating PTSD symptoms in women following traumatic birth. The protocol explores narrative exposure therapy, trauma-focused cognitive behavioural therapy and EMDR. I expect the outcomes will be published during the next 12 months. Trauma affects midwives, mothers, fathers and babies, and it hurts. EMDR may be the ray of hope, says psychiatrist Paul Miller: 'Being able to find meaning for our life's journey is the thing that gives birth to that most human of attributes: hope. We all need hope if we are to have any sense of peace and contentment in our life's journey. I believe that this is fundamentally what we, as EMDR therapists, help our clients to find: meaning, hope, and contentment' (Miller, 2015: 77).

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Midwifery lecturers' views of shortened midwifery programmes in the UK

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Abstract

Background. UK midwives are educated in one of two ways: non-nurses undertake 'long' (three- to four-year) programmes, and nurses complete a 'shortened' programme of study (typically 18 to 24 months). When numbers of qualified midwives are particularly low, commissioners of midwifery programmes and employers might consider increasing the number of places on the shortened programme. How students perform on the shorter programme would, therefore, seem to be a topic of some importance, though there is currently little research evidence available on this subject.

Aim. In the face of staff shortages and sweeping changes to midwifery education, this paper outlines a study that set out to investigate the views of experienced midwifery lecturers about students on the shortened programmes.

Method. An exploratory descriptive design using an online survey with 12 questions was used. The key concepts of interest were: the preparedness and commitment of students applying to the short programme; their numerical and writing skills; transition to the role of the midwife; transferable nursing skills; and attrition. The questionnaire was distributed via an online platform to all lead midwives for education (LMEs) throughout the UK. In total, 62 midwifery lecturers responded to the survey. A favourable ethical review was received from the university research ethics committee and gatekeeper approval was achieved via the chair of the UK LME group. The questionnaire responses were analysed with simple descriptive statistics, using numbers and percentages only. Free-text comments were analysed using simple qualitative thematic analysis.

Findings. Students on the shortened programme were generally thought to be prepared for and committed to midwifery. However, there was some concern about those who left to return to nursing, and their writing and numerical skills were not generally described as excellent. The students were thought to bring valuable nursing skills with them. Nevertheless, over 50% of experienced lecturers thought that the nurses on the shortened programme were unable to challenge the status quo. Also, they were thought to be less able than expected to undertake the decision-making client-choice aspects of the midwife's role.

Implications. Midwives in the UK are expected to be autonomous as lead professionals in maternity care and therefore they need to develop excellent decision-making skills to assist women to achieve their choices, even if this requires challenging traditional practices. This study may inform planning for the future of midwifery education and influence planning for research into midwifery education.

Key words: Midwifery, education, midwifery lecturers, short programme, evidence-based midwifery

Introduction

Background

The RCM recently reported a shortage of nearly 3500 midwives in its evidence to the NHS Pay Review Body (RCM, 2016a). This shortage may be compounded by the high number of midwives approaching retirement age, and the potential withdrawal of the right to remain for 1200 midwives from other EU countries (RCM, 2016a). The current shortfall may also be partly due to the increase in complex health needs of childbearing women and a rising birth rate. The RCM is therefore calling for increased numbers of places on midwifery education programmes (RCM, 2016a; 2016b).

Midwives in the UK are expected to be lead professionals enabling women to have a safe and satisfying experience of pregnancy, childbirth and early motherhood, and to advocate for women in complex care situations, providing woman-centred care (Department of Health (DH), 2010). Since the early 1990s midwives have been educated in two distinct ways: those from non-nursing backgrounds undertake a 'long' (three- to four-year) midwifery degree, or masters programme, and others who are already registered as nurses (of adults) on the NMC register may complete a shortened programme of study (typically 18 to 24 months) to become

midwives. The shortened programme is currently offered in 21 institutions in England, one in Wales and as a conversion course in Northern Ireland, with none available in Scotland (Fish and Gillman, 2015). Graduates from both programmes have the same competencies to achieve, are recorded on one professional register, and have the same job description and remuneration upon entering the workforce. The withdrawal of government funding for fees for healthcare programmes is likely to affect people's choice to study midwifery and may have an impact on the preparedness of people to pay the required fees for a degree in nursing followed by another set of fees in order to become a 'dually qualified' midwife. This is especially pertinent since the dual qualification does not lead to a different job role or improved remuneration. Given all the foregoing there is a realistic likelihood of even more difficult times ahead for UK midwifery numbers in the short, medium and longer term.

At times when numbers of midwives are particularly low, commissioners of midwifery programmes and employers might consider increasing the numbers of places on the shortened programme. This is to address the shortage in 18 to 24 months, instead of three to four years. The competition for places on the long programme is high, with

1000 applicants for 30 places not uncommon (RCM, 2017). This, understandably, results in some people choosing to take the even longer route into midwifery – undertaking the nursing programme before going on to the shortened midwifery programme. How prepared people are and how they perform on both types of midwifery programme would, therefore, seem to be a topic of some importance for policy-makers, the NHS and educational institutions. One important question relates to the benefits of dual qualification above that of single qualification, however, there is currently little evidence available on this subject.

In 2003, and again in 2011, the RCM stated that the benefits between the long and the shortened programmes were being debated, but found that there was no national study that explored the arguments for or against the shortened programme. This is despite the RCM's observation that 'anecdotal evidence appears to cite the workforce and nursing skills factors as favouring the shortened midwifery degree programme' (RCM, 2011: 19). Six years on, midwifery education in the UK is facing huge changes due to funding pressures and the UK leaving the EU (DH, 2016; RCM, 2016a). Furthermore, the NMC is considering the future of midwifery education in a climate of persistent evidence that midwives are completing their education, but are then leaving the profession (RCM, 2016a; 2016b; Curtis et al, 2006; Ball et al, 2002). This results in an urgent need for evaluation of the shortened programme.

Literature review

A literature search was conducted relating to the shortened midwifery programme in the UK with a view to preparing a research question. The following limits were applied: papers published between 2000 and 2016 in the UK and Ireland, and all papers written in English; the search terms utilised were midwifery [A], education [B] and long/short programme [C]. Databases searched included CINAHL, Maternity & Infant Care and ASSIA. A total of 57 articles were retrieved. A further five reports/articles were found through backward chaining and citation chasing after de-duplication. The final 62 papers were read and assessed for relevance and the content is discussed here along with other supporting literature.

In 1999, a national evaluation study was set up to explore the effectiveness of midwifery education in England (Fraser, 2000). While earlier studies explored the career progression of students qualifying from the two different programmes (Robinson, 1994; 1986), Fraser's (2000) study was the only large-scale one of its type. While there were some early studies about the new 'direct-entry' programmes (Lobo, 2002; Fleming et al, 2001; Fraser, 1996; Kent, 1995; Robinson, 1994), Fraser's study (2000) included evidence from both the 'direct-entry' (long) and the 'shortened' programmes. The action research case study involved student midwives, midwives, midwifery managers, supervisors of midwives and midwife teachers at seven institutions in England (Fraser, 2000). Fraser (2000) found that 'there was general agreement that the three-year programme students were as well equipped as shortened programme (for registered

nurses) qualifiers to take responsibility for women in all stages of normal pregnancy, labour and the postnatal period' (Fraser, 2000: 282).

Donovan (2008) did not set out to explicitly compare outcomes between qualifiers from shortened and long programmes, instead the study involved 51 self-selecting recent midwifery graduates in the UK (17 were from a shortened programme) and explored the graduates' feeling of competence and confidence. Donovan asked respondents to rate their competence and confidence in relation to 23 aspects of midwifery practice, including caring for pregnant women at high risk, performing an episiotomy, and managing a postnatal ward. A surprising finding was that there were few differences between the students' perception of their confidence and competence. Donovan (2008) stated that this may be explained by the potentially higher confidence/competence levels in the nurses being offset by the much shorter programme.

In 2010 a more wide-ranging study was commissioned. The Midwives in Teaching (MINT) study was an evaluation of the impact of midwife teachers on the outcomes of pre-registration midwifery education in the UK (Fraser et al, 2011). Participants in the study were lead midwives for education (LMEs), midwife teachers, local supervising authority midwifery officers, student midwives from both types of programme, programme leads from each of the four UK countries, newly qualified midwives graduating from the case study sites and their preceptors and supervisors. In this extensive study, the only differences between the programmes were that most students on the long programmes felt more confident in labour suite environments, while the students on the shortened programmes felt more equipped to manage a postnatal ward if they had previous ward management experience as a nurse. This was supported by the findings from a further study by Skirton et al (2012).

No such differences were identified in a later study by McIntosh et al (2013). In this qualitative study involving focus groups with 120 midwifery students at six UK universities, they found that: 'Students on the shortened programme expressed many of the same emotions and fears around knowledge acquisition (as those on the long programme) and its perceived relation to competence and confidence. They may have felt more comfortable with core nursing skills, but they still wanted to be seen as novices who needed guidance' (McIntosh et al, 2013: 1181).

In their 2015 investigation of the shortened programme in London, Fish and Gillman (2015) consulted with London-based LMEs, academic leaders, HoMs and student midwives, with the aim of establishing the feasibility of extending the programme from 18 to 24 months. The LMEs and HoMs considered that nurses bring additional skills and experience that enhances the workforce (in particular, in relation to acute and complex care). However, it is interesting to note that the HoMs were keen to support an increase to a 24-month masters programme for nurses to become midwives, if it included extra skill acquisition in high-dependency care and in newborn and infant physical examination (Fish and Gillman, 2015). The 49 short

programme students who responded to the survey agreed that they brought transferable skills with them but felt that they were not able to maintain their nursing skills while they were student midwives.

Any attrition (reduction of the class size by students failing or leaving) represents a waste of financial resources, whether from students or from the public purse. Therefore, it is also important to consider attrition from midwifery programmes. Green and Baird (2009) conducted a small qualitative exploratory study of attrition from midwifery education. They received completed questionnaires from three people who had recently withdrawn from the shortened programme and six from the long programme, and conducted focus group interviews with current students from both programme. They found that one of the key differences between the two programmes was 'socialisation'. Students on the long programme were often new to the university and to NHS environments and were greatly concerned about 'fitting in'. The students on the shortened programme tended to have trouble regarding their change in status, but were able to fit in as they had already been exposed to healthcare environments and were accepted since they 'knew the rules of the game' (Green and Baird, 2009).

The RCM survey of student midwives in 2011 received 763 anonymous questionnaires from UK student midwives (49 of these were from shortened programmes) and found that reasons for leaving included family circumstances, academic ability and financial hardship. In contrast, Hughes (2012) reviewed student records for midwifery attrition between 2006 and 2011 at a university in England and concluded 'wrong career choice' was cited by the majority who had withdrawn voluntarily. The study included students from both the shortened and the long programmes so it is difficult to draw conclusions about the shortened programme in particular. In Fish and Gillman's (2015) London-based study, five of the seven LMEs thought there was less attrition for the shortened programme with the most common reason for attrition being 'academic failure', while 'personal circumstances' and 'wrong career choice' were also cited.

The findings from the literature review identified that there seems to be little difference between the experiences of students themselves from either type of programme, with the exception of students completing the long programme feeling more confident in labour ward settings, but less confident about fitting in to the NHS culture and the opposite being true of the students completing the shortened programme. Students on the shortened programme felt that their nursing skills were helpful and responded that they were more equipped to manage a ward. Despite the wide-ranging data available to the MINT project (Fraser et al, 2011) and findings from several studies exploring UK midwifery education, there were no findings that specifically related to shortened programmes from the perspectives of those who deliver the programmes.

Method

Given the stated difficulties experienced by other researchers in accessing the experiences of students on and midwives

from the shortened programme (Skirton et al, 2012; RCM, 2011; Green and Baird, 2009), and in recognition of a gap in knowledge from the teachers' perspective, it was decided that experienced midwife teachers with at least one year's experience in teaching both long and short programmes would be invited as the participants for this study.

A quantitative, descriptive approach was taken to elicit views using a questionnaire designed following a literature review, and discussions between the two researchers as experienced midwifery lecturers and their teaching colleagues.

A self-administered, anonymous questionnaire with an accompanying invitation letter was administered via SurveyMonkey to all LMEs throughout the UK. They were asked to ensure that all midwifery lecturers in their respective organisations received information about the study and had access to the survey. There are approximately 50 institutions of differing sizes offering midwifery education in the UK with approximately four to 12 midwifery lecturers in each. In total, 62 midwifery lecturers responded to the survey. All had at least one year's experience as a midwifery lecturer with over 90% having more than five years' experience. No other demographic information was collected.

Lecturers were asked to rate their responses, using a four-point Likert scale from completely agree, slightly agree, slightly disagree to completely disagree. The first few statements asked about applicants' understanding of the midwifery profession, commitment to the midwifery profession and their performance at interview. The next two questions related to the lecturers' assessment of the students' writing and numerical skills. Questions were then asked about any skills that students had brought from their nursing background and about whether and when they demonstrate transition from nurse to midwife. Respondents were also expected to assess whether students on the shortened programme had any difficulty in undertaking the decision-making, full client choice and challenging the status quo of the midwifery role. They were then asked to assess how quickly students on the shortened programme demonstrated the ability to 'fit in' to the NHS culture. Finally, they were asked to assess their perception of attrition in the shortened midwifery programme in comparison with the long programme. The questionnaire was kept deliberately short and easy to use in order to ensure as high a response rate as possible. The questionnaires were analysed using simple descriptive statistics. Table 1, opposite, shows the answers to the questions. Respondents had the opportunity to give additional free-text details below each question; these data were analysed using simple thematic analysis to further illustrate the findings (Clarke and Braun, 2013).

Ethical considerations

A favourable ethical review was received from the university research ethics committee and gatekeeper approval was achieved via the chair of the UK LME group. The questionnaire asked respondents to note how long they had been practising as a midwife lecturer, but

Table 1. Summary of evaluation scores

	Completely agree	Slightly agree	Slightly disagree	Completely disagree	Total
In my experience applicants to the shortened midwifery programme have generally had a very good understanding of the midwifery profession	16	23	21	2	62
In my experience applicants to the shortened midwifery programme have generally displayed very good commitment to the midwifery profession	21	29	9	2	61
In my experience applicants to the shortened midwifery programme generally perform very well at interview	14	30	14	4	62
In my experience applicants to the shortened midwifery programme generally demonstrate excellent writing skills	4	24	23	10	61
In my experience applicants to the shortened midwifery programme generally demonstrate excellent numerical skills	4	28	28	1	61
In my experience students on the shortened midwifery programme generally demonstrate transition from nurse to midwife later than might be expected in their programme	18	20	18	3	59
In my experience students on the shortened midwifery programme generally have difficulty in undertaking the decision-making and full client-choice aspects of the midwifery role	9	24	18	10	61
In my experience students on the shortened midwifery programme generally demonstrate the ability to quickly fit in to the NHS culture	48	11	0	2	61
In my experience students on the shortened midwifery programme generally demonstrate extra 'nursing' skills that are vital for the midwifery profession	20	24	10	7	61
In my experience students on the shortened midwifery programme generally demonstrate the ability to challenge the status quo	13	16	23	10	62
During the past five years the levels/rates of attrition are generally lower in the shortened midwifery programme than in the long programme	13	16	18	13	60

it sought no other biographical details, therefore, it is impossible to identify any of the respondents. It was hoped that this would lead respondents to be fulsome and honest in their replies. Anonymity was seen as being paramount for the respondents, current and previous students and for educational institutions. No identifying features were discernible from any of the completed questionnaires and none were traceable back to the institutions or the respondents.

It was considered that respondents were likely to be very busy professionals and they may find it difficult to be exact in their answers (for example, specific attrition numbers). The questionnaire was designed to take an average of 10 to 20 minutes to complete. They were asked to respond to 12 statements by ticking the box on the scale that most closely matched their views and experience. They were asked to not answer the questions in relation to one student, but to think about all the students on the short programmes – it therefore asked them to answer with a general overview.

Participants

Lecturers were eligible to be included if they had been a midwifery lecturer in the UK for over a year and during that time had been teaching students on both types of programme.

Discussion

During the period that the survey was open in June and July 2016, 62 responses were received from around 400 experienced lecturers throughout the UK. Using Clarke and Braun's approach to thematic analysis (2013), six themes emerged from the free-text comments. These are: 'applicants', 'academic skills', 'nursing experience', 'decision-making', 'fitting in', and 'attrition'. The discussion of all the findings is presented through these six themes and verbatim free-text comments are included to enhance the quantitative findings elicited from the Likert scale responses (see Table 1).

Applicants

The quantitative data demonstrates that the lecturers thought that applicants to the shortened programme

generally had a very good understanding of midwifery before entering the programme and were very committed to it, and 71% of respondents believed that the applicants to the shortened programme performed well at interview. However, a number of the free-text responses related to how the students applying for and studying on the shortened programme brought with them an understanding of midwifery that is perhaps rather 'medicalised' or an extension of the nurse's role:

"I do think that it is difficult for some students to move from a medical model of nursing to the autonomous mindset of midwifery."

"Many see it as an extended role of the nurse."

However, one of the respondents suggested that those with a less 'medicalised' view were more successful at interview:

"In my experience applicants tend to be indoctrinated in a medical model of care, there are of course some who recognise the social model of midwifery care and these tend to be the successful applicants."

If true, these impressions about students on the shortened programme clearly have implications for midwifery in the UK as there are several drivers aiming to steer maternity services away from a 'medicalised' approach (RCM, 2016c; National Perinatal Epidemiology Unit (NPEU), 2012; DH, 2010).

Academic skills

There were a number of negative responses in relation to the students' writing and numerical skills. Only approximately 7% completely agreed that students on the shortened programme generally had excellent writing skills and around 39% slightly agreed with this assessment. This left 54% of the participants slightly disagreeing or completely disagreeing with the assessment that students on the shortened programme generally had excellent writing skills. This was largely similar in relation to numerical skills. Only 7% completely agreed that students on the shortened programme generally had excellent numerical skills and 46% slightly agreed with this assessment, leaving 47% believing that students on the shortened programme did not generally have excellent numerical skills. The reasons for this are unclear, but it is clear that even though the students will have completed a nursing qualification (and often this will have been at degree level) they largely do not demonstrate excellence in writing and numerical skills. This was supported by a large number of free-text comments:

"They are no better than the three-year students and are certainly not better in writing skills when compared to the majority of the third-year students."

"Even though they have completed a nursing degree/diploma, they show limited ability to critically analyse the evidence and their skills in synthesis can be poor. They tend to stick to more descriptive narration."

"We require students to undertake a numerical test annually and there has been a failure rate of about 25%."

"(Numerical skills are) variable – previous nursing experience not a reliable indicator."

Nursing experience

One of the potentially most valuable aspects of having midwives who have already qualified as a nurse is related to the skills that they bring with them from their nursing experience. In this study, 72% of the respondents seemed to reflect anecdotal evidence from the annual UK national survey of student midwives in 2011 (RCM, 2011) that student midwives on the shortened programme bring nursing skills with them that are vital for midwifery. However, 28% of the lecturers who responded disagreed with this statement and the majority of free-text comments in this section were negative about the students' nursing skills:

"I have not really seen 'extra' nursing skills that would be valuable for midwifery."

"This depends considerably where the students have had experience during their nursing programme. Experience can be quite limited... some have problematic levels of competence of basic skills such as catheterisation."

From these comments, it would appear that most of the respondents were not confident about the types and level of nursing skills that students on the short programme were bringing with them. These findings require further exploration as the 'porting' of nursing skills into midwifery is arguably one of the key driving factors for retaining shortened programmes (RCM, 2011; Doris and Storrie, 2006; Maggs and Rapport, 1996).

Decision-making

In total, 64% of respondents believed that the students on the shortened programme made the transition from nurse to midwife late in the programme and only 28% believed that they were able to undertake decision-making and full client-choice aspects of the role of the midwife. This is a potentially worrying finding, especially when seen in conjunction with some of the free-text comments:

"Even at the point of registration a small number of [short programme] students still struggle with this element of the midwife's role. Students also express feeling frightened about making decisions and seem to rely on other members of the multidisciplinary team for a lot of support around this."

"I think the nurses have difficulty in working in partnership with women."

However, there were some more positive comments:

"Dependent on previous experience and to what extent they feel 'at ease' in sharing the decision-making with the woman, having been used to informing patients about the decisions made in conjunction with the medical team."

"Most seem to cope well with this and are keen to promote advocacy for the women."

When considering the students' ability to challenge the status quo in NHS settings, the responses were fairly equally split, with 53% stating that they were unable to do this and 47% feeling that they were able to challenge the status quo. However, most of the free-text comments were negative about students on the short programme being able to advocate for women and challenge 'traditional' practices as part of the status quo. Some of the comments referred

to it being dependent upon the student's experience, confidence and personality and others state that it improves as time goes on but a number of the other comments are particularly stark in their condemnation:

"These students generally are acclimatised to obeying doctors 'orders'."

"Mostly work in a medicalised way and don't challenge."

"I think they are less likely to challenge bad practice."

These comments are particularly worrying in light of the need for healthcare professionals to identify, raise and, if necessary, escalate any concerns about patient or public safety (NMC, 2015). It also seems to be vital when considering that midwives in the UK are autonomous lead professionals for healthy women in pregnancy, childbearing and the postnatal period, and they are expected to be the key coordinator and advocate for the care of women who require care given by the multidisciplinary team (DH, 2010). UK midwives are now also expected to advise multiparous women that birth at home or in a midwife-led birth centre is particularly suitable for them and nulliparous women are advised that aiming to give birth in a midwife-led unit is also suitable for them (NPEU, 2012). This means that midwives must be prepared to work autonomously and to challenge the status quo to increase births outside of obstetric settings. Therefore, this finding requires further investigation to seek to elicit the ability of nurses to transition into the advocacy role of the midwife in the UK.

Fitting in

Perhaps reflecting some of the comments made in relation to being able to challenge the status quo, 95% of the respondents felt that the students were quickly able to settle in to the NHS culture. This may be considered to be a positive finding, since the vast majority of UK midwives work in the NHS and it is essential that they work collaboratively and with a multidisciplinary approach in order to achieve the optimum safe and effective care for all women, their babies and families. One of the free-text comments was very positive:

"They are appreciative, better 'behaved' and able to understand the expectations of NHS values and culture. They have better tolerance and resilience compared to students in the three-year programme. They are more likely to face the hard work of long hours in placement and also in class! Such a joy to teach these groups of shortened programme and hope this programme continues."

However, all the other free-text comments offered on this question were critical of the students' 'fitting in':

"This is not necessarily an advantage as the issues around care to women often relates to the NHS culture leading when it should be the woman leading care."

"On the whole 'yes' as they have already worked in the NHS. However, they still struggle to be assertive when it is needed, remaining fairly passive initially in the decision-making process."

"I think this is part of the problem. Midwives are often people with the strength of character to challenge current practice. Short-course students are comfortable in the

medical system and therefore don't always identify the political components of healthcare."

These comments reflect others about the difficulty that students on the short programme have in supporting women to be the leaders in their own care, which is a founding tenet of modern midwifery care in the UK (NPEU, 2012; DH, 2010; NICE, 2008; DH, 1993).

Attrition

On the question about attrition, the responses were equivocal: 29 respondents reported that they felt the attrition from the shortened programme was lower than in the long programme and 31 respondents disagreed with this appraisal. However, the free-text comments relate to the reasons for students leaving the shortened programme:

"Academic failure is greater in this group."

"They are worse and roughly one-third return to nursing."

"We have many students who struggle with the pace of the course and the significant lack of time to fit everything into such a shortened period. To this end many students intercalate [take a break] or withdraw from the course. They also take a cut in pay in many instances which causes financial hardship."

"Students on the shortened programme leave for entirely different reasons, some see midwifery as a soft option. Students need an awful lot of support to stay and continue."

"Attrition is moderate but a lot of students return to nursing."

These findings represent the viewpoints of experienced lecturers and are not hard data in terms of actual attrition numbers and recorded reasons for leaving. However, given the findings of this study and the cost of educating midwives, it would seem to be reasonable to explore this further.

Limitations

This study was relatively small, with only 62 respondents. However, this might be expected with only 23 institutions offering the shortened programme in the UK and the window for completing the questionnaire being only one month. This was compounded by only one email invitation being sent out followed by one reminder via a standardised UK-wide email mailshot.

The questionnaire was brief and asked respondents to report on their personal experiences, but it did not offer sufficient space to access any qualitative depth in their answers. One may also consider that only those with strong viewpoints might have filled in the survey, for example, those who do or do not particularly favour the shortened programme. However, the findings appear to disprove this, since there is a spread of positive and negative responses to the questions posed throughout the data.

The study only included the views of lecturers and not students or employers. However, it addressed a gap in the literature, which is a focus on the views of experienced lecturers. Further research exploring this subject area, including more in-depth studies and including other stakeholders, would be useful to inform future developments in midwifery education.

Conclusions

The findings appear to point to applicants to the shortened midwifery programme being generally prepared for and committed to midwifery. However, their writing and numerical skills were not generally described as excellent. Despite their NHS experience, they were thought to be less able than might have been expected to undertake decision-making and full client-choice aspects of midwifery. As expected, they were thought to bring valuable nursing skills with them. However, over 50% of respondents thought that the students were unable to challenge the status quo in practice.

Attrition from the course was not thought to be problematic, but there is some concern about the numbers who appear to return to nursing. Given the potential shortcomings identified in this study and the pressure to increase student midwifery places in the UK, this research could be useful to regulators, education institutions, employers and commissioners of midwifery programmes when planning the future of midwifery in the UK. It would also seem to be timely to develop further research to accurately evaluate the programme's contribution to the midwifery workforce at a time of great and increasing pressure on staffing levels.

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The face of salutogenesis: an interdisciplinary Swiss thermal imaging case report

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Abstract

Background. Health-oriented practice is advocated, since 'too much medicine' has led to increased health costs without an increase in health. Conversely, negative iatrogenic outcomes have been reported in both medicine and midwifery care. Recent research has described health-oriented midwifery practice, but little is known about how health-oriented practice can be measured.

Aim. This pilot study investigated whether infrared thermal imaging is able to distinguish between health-oriented and clinically-oriented practice. Building upon previous studies that distinguished specific thermal imaging patterns related to specific emotional states, this study attempted to record the specific thermal signatures relating to health-oriented and clinically-oriented practice. Thus it aimed to provide a quantitative definition of health-oriented practice in midwifery consulting sessions. This single case study is the first attempt to assess professionals' health orientation in maternity care.

Methods. For this initial purpose two midwives with differing professional orientations were required to enroll in the study. Following consent for participation, the consulting session of a health-oriented midwife was compared to the consulting session of a midwife with a clinical orientation. Both sessions were assessed using thermal imaging and voice recording.

Results. Two distinct profiles emerged from the descriptive analysis of the thermal images. While the health-oriented midwife showed significant changes in facial, neck and hand temperature, there were almost no changes in the thermal images taken of the clinically-oriented midwife, both in terms of temperature values and temperature diffusion.

Discussion/conclusion. These differences are assumed to be related to the professional orientation of the midwives. To examine these assumptions, further studies on larger samples are needed.

Key words: Salutogenesis, thermal imaging, thermal signature, midwife, health promotion, evidence-based midwifery

Introduction

Health orientation is claimed for both health promotion and medicine (Koelen and Lindström, 2016). Health-oriented practice has been defined in addition, and in contrast to the fact that 'too much medicine' has led to increased health costs but not to an increase in health (Miller et al, 2016). To the contrary, negative iatrogenic outcomes have been reported in medicine as well as in midwifery care as a consequence of a practice exclusively based on risk avoidance and clinical orientation (Miller et al, 2016; Sinclair and Stockdale, 2011). In recent years healthcare has moved towards a more health-promotion approach through the implementation of health-oriented practices in order to optimise results and minimise unnecessary interventions. In the field of midwifery specifically, approaches based on the theory of salutogenesis by Aaron Antonovsky (Antonovsky, 1987) have been strengthened to achieve optimal birth (Lindström et al, 2017; Sinclair and Stockdale, 2011; Downe, 2010).

Salutogenic theory and salutogenic research explore the question of 'What creates health?' and so complement the clinical research of pathogenesis, which focuses on the causes of illnesses and diseases. In salutogenic theory, health is conceptualised not as a state but as a process on

the continuum between 'health-ease' and 'health-disease', as Antonovsky named the poles of health and disease (Antonovsky, 1987). Individuals move on this continuum in a life-long learning process of meeting demands and challenges in life. Health depends on the individual's resources and on their sense of coherence (SOC). SOC is 'a global orientation that expresses the extent to which one has a pervasive and enduring, though dynamic, feeling of confidence' (Antonovsky, 1987) that:

- Demands in life happen in an orderly and predictable way, and a person can understand events in life and reasonably predict what will happen in the future (sense of comprehensibility)
- One has the skills or ability, the support, the help, or the resources necessary to take care of demands, and that they are manageable (sense of manageability)
- Demands in life are interesting and a source of satisfaction, they are genuinely worthwhile and there is a good reason or purpose to care about what happens (sense of meaningfulness).

These three dimensions of SOC (comprehensibility, manageability and meaningfulness) are related and interact with each other. SOC is measured by the SOC scale, a validated questionnaire that has been translated and adopted

to allow studies for two-thirds of the world population in a native language (Lindström and Eriksson, 2010).

This scale has been widely researched. Strong evidence, based on a broad range of international longitudinal and controlled studies, shows that SOC is a predictor of lifelong psychological and physical health (Lindström and Eriksson, 2010). SOC can be understood as a measurable orientation which makes it possible to activate available resources for the maintenance of health and wellbeing, to protect oneself from health stresses, to overcome stressors and to achieve quality of life (Lindström and Eriksson, 2010). Thus, salutogenesis can be understood as a valuable theory underpinning health-oriented practice (Lindström and Eriksson, 2005).

Moreover, research has shown that an individual's SOC can be positively influenced, especially during the period of childbirth, which is a major event in a woman's life, carrying a high potential to influence their SOC levels. However, there is little research on whether and how a maternal SOC can be directly reinforced by their experiences during pregnancy, childbirth and the postpartum period (Lindström et al, 2017).

Since SOC has been shown to be a crucial determinant of health, it is important to identify how professionals' methods may strengthen SOC in individuals. Recently, in addition to Antonovsky's concept of the 'sense of coherence', a new concept, the 'sense for coherence' has been introduced (Lindström and Eriksson, 2010). This has been defined as the sense of professionals' to improve the 'sense of coherence' of the people they work with (Koelen and Lindström, 2016).

However, little is known about the nature of sense for coherence. It also remains unclear as to whether the salutogenic approach of the health professional can really 'radiate' positive energy or cause them to act differently towards the patient or the pregnant woman. Descriptive, qualitative analysis has been undertaken (Meier Magistretti et al, 2016) showing that elements of health-oriented practice described by midwives mirror SOC. There is as yet no quantitative evidence for this.

In light of this lack of evidence, this paper seeks to address the issue of whether it is possible to objectively and reliably describe and measure sense for coherence.

The hypothalamus, controlling the autonomic nervous system (ANS), directly regulates body temperatures as well as feelings of hunger and thirst. Emotional expressions and behaviour are regulated in a similar way by the higher centres of the brain through the ANS (Ioannou et al, 2014).

It has also been demonstrated that various emotions and behaviour are associated with variations in the temperature of particular areas of the body. Specifically, it has been shown that different behaviour causes different thermal reactions on the face, hands, and other body areas, releasing specific thermal signatures (O'Kane et al, 2004; Yoshiton et al, 1997).

Thermal imaging as a method has been used for several decades in the social sciences, psychophysiology and psychology, enabling researchers to recognise and distinguish

emotions such as stress, anxiety, fear, anger and joy with accuracy of up to 90% (Ioannou et al, 2014; Ebisch et al, 2012; Nozawa and Tacano, 2009; Pollina, 2006; Levine et al, 2001; Shearn et al, 1990; Zajonc et al, 1989). Thermal imaging is easy to use, completely safe and non-invasive. It enables researchers to perform a variety of studies in the fields of healthcare and medicine (Topalidou and Downe, 2016; Ring and Ammer, 2000).

Aim

The aim of this pilot study was to investigate whether infrared thermal imaging is able to distinguish between health-oriented and clinically-oriented midwifery practice and identify the specific characteristics of each.

At the same time, efforts were made to visualise these differences, to record specific thermal signatures in order to provide a quantitative definition of salutogenic practice in action by evaluating thermal signatures numerically.

Method

Participants and recruitment

Two midwives, who were evaluated and classified based on their professional orientation as health-oriented (HO) and clinically-oriented (CO), were recruited for the study.

Their classification into one of these two categories was based upon their completion of a short questionnaire produced by one of the authors based on prior research on the health orientation of midwives (Meier Magistretti et al, 2016). This study had revealed three patterns of health orientation in midwives' tacit professional knowledge: explicit, implicit, and contrasting conceptualisations of health.

The first concerns health explicitly, characterising professional midwifery practice as part of health promotion and pointing at its relevance for the lifelong health of mothers, babies and families. In the second, implicit pattern, health is conceptualised implicitly, rather than in explicit health terms, by speaking of overarching concepts such as 'spiritual birth' or 'natural birth'. As a third pattern, health concepts in contradistinction to pathological concepts were found. In this pattern, midwives define health orientation in contrast to a pathologically or technically oriented practice (Meier Magistretti et al, 2016).

This study used short open questions on the philosophy of participants' professional orientation to identify their health or clinical orientation. Health orientation was assumed when the midwife answered in one of the patterns described before, clinical orientation when the midwife explicitly focused on risk avoidance and pathology.

Both participants had at least three years' experience as midwives and during the study were working at the same birth house. Participant exclusion criteria have been previously described in the literature (Topalidou and Downe, 2016).

Ethics

The participants (midwives) were provided with an information sheet and a written consent form two weeks prior to the start of the study. The participants were advised they could withdraw from the study at any time.

To secure the privacy of consultation, the researcher who performed the thermal imaging was not a German speaker and the psychologist, who assessed the recordings after the session, did not know any personal details about the pregnant women involved. All data were saved with a serial number, and no personal identifiers were used. Pregnant women were also informed in detail about the procedure, their agreement was required and they were allowed to withdraw at anytime. They and their babies were not exposed to thermal imaging.

Technique and measurement procedure

All measurements were taken under stable environmental conditions with the temperature and humidity being constant at (20±1°C) and (50±2%) respectively. To avoid any disturbance in this environment a consistent number of people were in the room in which measurements were being taken during every evaluation (the researcher, the midwife, and the pregnant woman). This room was furnished with only the necessary furniture and equipment to allow the measurements to take place (Ring and Ammer, 2000).

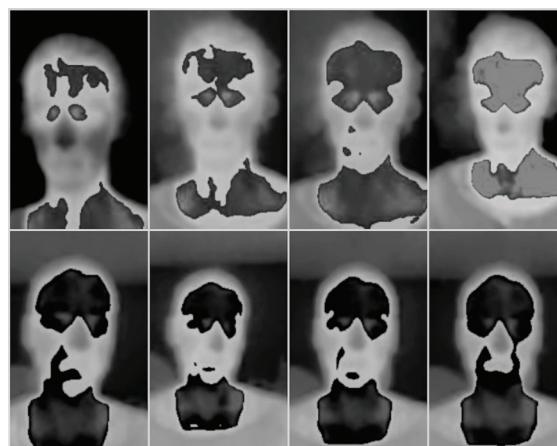
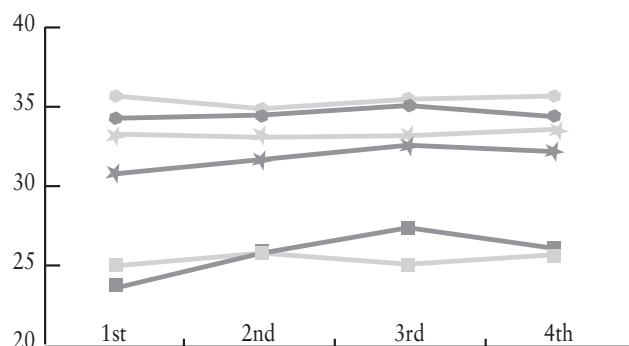
Thirty minutes before the measurement procedure, the participants were instructed to remove all their jewelry and any other material, such as scarves or other clothing from the region of interest (ROI) (face/neck/hands) to ensure equilibrium of the temperature of the skin. Participants were advised that hair should be tied up or tucked behind the ears so that it did not cover the ROI. After acclimatisation and before the beginning of consultation, the first set of images was taken (0 minutes – starting point SP). The next set of images was taken at 10 minutes, 20 minutes and then 30 minutes (end of consultation – end point EP). In total four measurements were taken for each participant. Each set of images consisted of three recordings: face and neck frontal view (FNF) and palmar (HP) and dorsal (HD) aspects of both hands (with fingers not in contact). For the recording of the hands, participants were asked to slightly raise their arms in front of their body. Time was counted with a digital timer with timing beginning after the first measurement. Ten seconds before each re-evaluation the participant was informed with a hand sign.

A FLIR C2 thermal camera was used for thermal imaging recording. The distance between the camera and the participant in every measurement was 1m (±0,1m). Human skin emissivity was set at 0.98. In order to protect participants' privacy and anonymity, the multi-spectral dynamic imaging (MSX), which ensures easier target and ROI identification and was used for analysis of the images, was excluded from the final display of the images. To measure the area of thermal distribution specific software was used.

Finally, to ensure and to re-assess the orientation of midwives (HO versus CO) the consultation was recorded with a digital voice recorder (Olympus VN-741PC). A psychologist specialising in salutogenesis listened to all the recordings to assess the orientation of the midwives. All consultations were in German. As this was a pilot study, only one consultation by each midwife was recorded.

Figure 1. Thermal signatures and their changes from the first measurement (SP) to the last (EP) are represented. The thermal signatures of the HO midwife (dark lines/upper images) and the CO midwife (light lines/lower images) are shown. For each assessment, the maximum, minimum and average temperature values of ROIs are presented

HEAD					
Max temp	—●—	34.4	34.6	35.2	34.5
Min temp	—■—	23.7	25.9	27.5	26.2
Average temp	—★—	30.9	31.8	32.7	32.3
Max temp	—○—	35.8	35.0	35.6	35.8
Min temp	—□—	25.1	25.9	25.2	25.8
Average temp	—☆—	33.4	33.2	33.3	33.7



Results

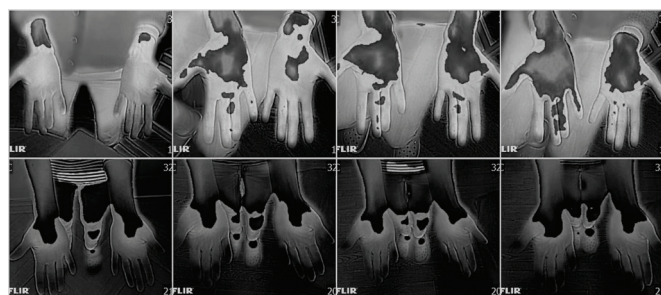
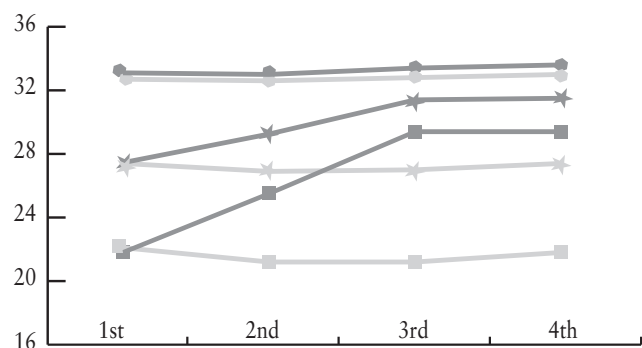
Thermal imaging was completed on the face, palmer and dorsal aspects of the hands to enable the reading of temperature signatures and distribution. A details analysis of each ROI was performed.

Face and neck

To analyse the results, the frontal bone of the skull including the superior and inferior palpebral sulcus, were defined as the facial ROI. Neck ROI included the anterior and lateral neck triangles, as they are described in surface anatomy

Figure 2. Thermal signatures and their changes from the first measurement (SP) to the last (EP) are represented. The thermal signatures of the HO midwife (dark lines/upper images) and the CO midwife (light lines/lower images) are shown. For each assessment, the maximum, minimum and average temperature values of ROIs are presented

HANDS PALMAR ASPECT					
Max temp	—●—	33.1	33.0	33.4	33.6
Min temp	—■—	21.8	25.5	29.4	29.4
Average temp	—★—	27.45	29.25	31.4	31.5
Max temp	—○—	32.7	32.6	32.8	33.0
Min temp	—□—	22.1	21.2	21.2	21.8
Average temp	—✱—	27.4	26.9	27.0	27.4



(submental, submandibular, carotid, muscular, occipital and supraclavicular triangles) having as a lower border the two clavicle bones (see Figure 1).

Descriptive analysis of the thermal images demonstrated that the CO midwife showed almost no change in temperature values and diffusion while the HO midwife presented differences in both parameters, in facial and neck ROIs.

While the maximum temperature for both midwives did not show extreme changes during re-assessments and the EP measurements (HO 34.4°C and CO 35.8°C) were exactly the same as the SP measurements (HO 34.5°C and CO 35.8°C), they followed different patterns. The maximum temperature for the HO midwife gradually increased in the second (34.6°C) and third measurement (35.2°C) to return finally, at the EP assessment, to the baseline value (SP). The maximum temperature for the CO midwife was reduced

in the second (35.0°C) and third measurement (35.6°C) to revert finally up to baseline levels (35.8°C). Significant differences were noted between the two midwives regarding the minimum temperature. While it remained approximately stable between 25.1°C to 25.9°C for the CO midwife, it increased significantly during re-assessments for the HO midwife. In the first recording of the HO midwife the minimum temperature was only 23.7°C, much lower than the corresponding value for the CO midwife. After, in the second and third measurement, it showed an increase of up to four units (27.5°C). It is worth noting that in the final recording (EP) the minimum temperature decreased slightly (26.2°C), reaching almost the same level of EP minimum temperature as that of the CO midwife (25.8°C). Based on these differences, the average temperature values varied between the participants, whereas they remained almost constant in all recordings for the CO midwife, they increased significantly for the HO midwife. All the values are presented in Figure 1.

Apart from the temperature values, significant differences were evident in the temperature diffusion. To set the temperature diffusion and to represent the thermal signatures (isotherm analysis), a personal minimum recording limit (MRL) for each participant was defined. The maximum value of all average values recorded was defined as MRL. Similarly, the MRLs for dorsal and palmar aspects of hands were set. As it was observed, for the CO midwife the temperature distribution in forehead and neck remained almost unchanged, covering almost entirely the ROIs (see Figure 1). Specifically, the thermal diffusion on the forehead started within an area of 24.07cm² in SP assessment. After 10 minutes it was 23.08cm², spreading to 24.64cm² in 20 minutes evaluation and at the EP recording it stayed at 24.64cm² (relative values).

In contrast, for the HO midwife there was a significant difference between the first and second measurement, mainly in the area of the procerus muscle. In the third recording, at 20 minutes, almost the entire area of the forehead and the neck had been covered, surpassing in size the corresponding area of the CO midwife. After this extreme increase in the third measurement, the diffusing area decreased again in the last recording (see Figure 1). In particular, in the first recording the thermal diffusion area of the forehead of HO midwife was only 9.77cm² and increased to 15.27cm² in the second assessment. During the recording at 20 minutes the area was 38.41cm², and at EP assessment the area had slightly decreased to 21.02cm² (relative values).

Palmar aspects of hands

Similar to the facial area, the CO midwife did not show any significant differences in the hands. Temperature values (maximum, minimum and average) and the thermal diffusion remained remarkably stable. In contrast, for the HO midwife no significant changes were evident in the maximum temperature. However, the minimum temperature increased significantly by nearly four points between the first (21.8°C), second (25.5°C) and third (29.4°C) measurement

to stabilising at 29.4°C in the EP assessment. This change in the minimum temperature resulted in similar alteration of average temperature. At the same time, it is worth mentioning the significant change of thermal diffusion on both palms of the HO midwife (see Figure 2).

Dorsal aspects of hands

The temperature values and thermal diffusion in the dorsal aspects of hands remained almost constant for the CO midwife. The maximum temperature for the HO midwife showed a slight increase in the third recording, where the largest area of thermal diffusion appeared. This significant diffusion may also be related to the increase of the minimum temperature. However, the minimum temperature displayed the maximum increase in the second assessment (25.6°C) in comparison with the first (21.4°C) and remained almost stable in the third (25.1°C), to increase again at 30 minutes (28.3°C) (see Figure 3).

Discussion







In recent years, there has been an increasing request for health orientation in maternity care and therefore a deeper understanding of this phenomenon. Existing studies of the nature of the professional health orientation have been predominantly qualitative research (Meier Magistretti et al, 2016). However, the need to change from the clinical or pathologic assessment of health to a more asset-oriented approach has been clearly described, based on the salutogenic theory by Aaron Antonovsky (Lindström et al, 2017; Sinclair and Stockdale, 2011; Downe, 2010). Still, an in-depth understanding, differentiation, and objective determination of salutogenesis in practice is needed (Dietscher et al, 2017; Eriksson and Lindström, 2006; 2005).

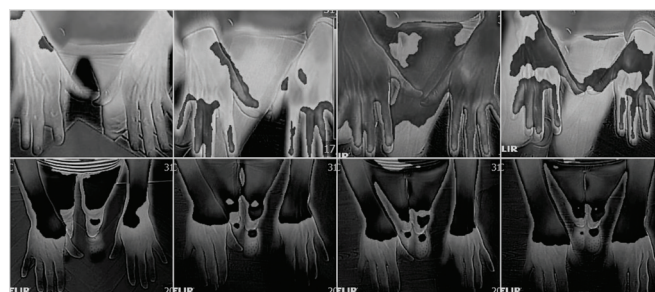
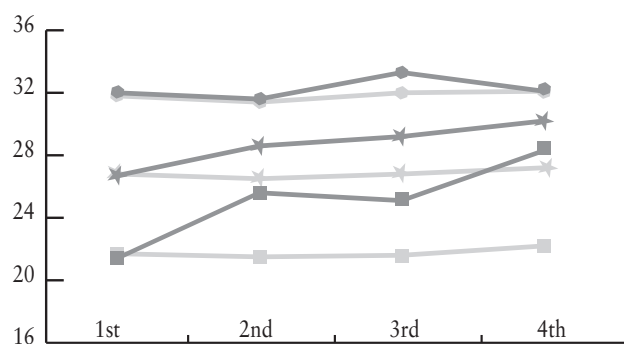
The purpose of this pilot study was to investigate whether thermal imaging, as a non-invasive and ecological method, could give an ‘image’ that could possibly be developed to provide evidence of what a salutogenic health-oriented approach might consist of.

The heat emitted by the human body can provide substantial physiological as well as psychological information about individuals (Topalidou and Downe, 2016; Ioannou et al, 2014; Ebisch et al, 2012; Ring and Ammer, 2000). In terms of future research, while the sample size is extremely small, the results of this pilot study are potentially significant. Essentially, in the CO midwife facial and hands temperatures did not change throughout the session with the pregnant woman, which could be described as a psycho-emotional plateau. In the HO midwife, the temperatures of both the face and the hands showed considerable fluctuations (see Figures 1, 2 and 3). To determine what caused these fluctuations, further investigation is required, using a larger sample and more variables.

Also significant is the temperature diffusion on the face and dorsal aspects of hands (see Figures 1 and 2), both of which follow a similar pattern. In the HO midwife, within 20 minutes of the start (third recording), the body temperature

Figure 3. Thermal signatures and their changes from the first measurement (SP) to the last (EP) are represented. The thermal signatures of the HO midwife (dark lines/upper images) and the CO midwife (light lines/lower images) are shown. For each assessment, the maximum, minimum and average temperature values of ROIs are presented

HANDS DORSAL ASPECT					
Max temp		32.0	31.6	33.3	32.1
Min temp		21.4	25.6	25.1	28.3
Average temp		26.7	28.6	29.2	30.2
Max temp		31.8	31.4	32.0	32.1
Min temp		21.7	21.5	21.6	22.2
Average temp		26.8	26.5	26.8	27.2



that is above the maximum average appears in almost all of the ROIs, while in the CO midwife there is almost no change from the beginning to the end of the session. A slightly different pattern was observed in the palmar aspect of the participants hands, where the biggest diffusion area displayed in the last recording (end of the session) for the HO midwife (see Figure 3). In addition, it is worth mentioning that for the dorsal and palmar aspect of both midwives' hands, all temperature values (maximum, minimum, average) in the first recording were almost equal (see Figures 2 and 3). While they were two different individuals, the temperature values at the beginning of the session were almost the same, and then the deviation was observed, with the increasing values for the HO midwife and the stable values for CO.

It is difficult to determine what caused these results as the present study is the first trial to provide a visual

representation to a health-oriented approach in practice, paving the way for further studies. One biological explanation for the observed temperature differences could be that it is secondary to vasodilation caused by production of oxytocin in the midwife who was assessed as having an empathic salutogenic orientation. However, a one-off study of only two cases is highly subject to bias, therefore funding has been obtained to test the findings with a larger sample in future research, to provide a clearer picture of the 'face of salutogenesis'.

Conclusion

Childbirth is crucially important for lifelong health of mothers, babies and their families. This study focuses on midwives' health-oriented professional practice that is assumed to be beneficially influencing important determinants of health, such as the SOC as it has been

described in the theory of salutogenesis. So far, analysis of health-promoting midwifery practice has been limited to qualitative studies and quantitative methods of measurement were lacking. This study finds that thermal imaging can be used to describe physiological processes: two patterns can clearly be seen that relate to the different practices midwives have in consulting sessions.

These differences are assumed to be related to the professional orientation of the midwives that can be described as either health-oriented or clinically-oriented. To examine these assumptions, further studies using larger samples are needed. The differences demonstrated in this study need further investigation in order to ascertain if they occur systematically, if they can be related to health orientation or if factors such as emotional involvement, empathy or relationship quality are involved and what role they may play.

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Defining the latent phase of labour: is it important?

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Abstract

Background and rationale. The latent phase of labour is recognised as a period of uncertainty for women and midwives. There is evidence from the literature of considerable variation in labour definitions and practice. Stimulated by discussion at an international maternity research conference, the authors set out to explore opinions regarding the need for labour-stage definitions.

Aim. To identify health professionals' views on the need for a definition of the onset and the end of the latent phase of labour.

Methods. This was an opportunistic, semi-structured, online survey of attendees at a maternity care research conference, which included midwives, other clinicians, academics, advocates and user representatives. Attendees (approximately 100) were invited to participate through a single email invitation sent by the conference committee and containing a link to the survey. Consent was sought on the landing page. Ethical approval was obtained from Bournemouth University's research ethics committee. Quantitative questions were analysed using simple descriptive statistics using IBM SPSS Statistics Version 24. Open questions were analysed using content analysis and where participants gave a more detailed answer, these were analysed using a thematic approach.

Findings. Participants in the survey (n=21) came from 12 countries. Most of the participants thought that there was a need to define the onset of the latent phase (n=15, 71%). Common characteristics were cited, but the main theme in the open comments referred to the importance of women's perceptions of labour onset. Most participants (n = 18, 86%) thought that there was a need to define the end of the latent phase. This was felt necessary because current practice within facilities is usually dictated by a definition. The characteristics suggested were also not unexpected and there was some consensus; but the degree of cervical dilatation that signified the end of the latent phase varied among participants. There was significant debate about whether a prolonged latent phase was important; for example, was it associated with adverse consequences. Most participants thought it was important (n=15, 71%), but comments indicated that the reasons for this were complex. Themes included the value that women attached to knowing the duration of labour and the need to support women in the latent phase.

Implications for practice. The findings from this small, opportunistic survey reflect the current debate within the maternal health community regarding the latent phase of labour. There is a need for more clarity around latent phase labour (in terms of both the definition and the support offered) if midwives are to provide care that is both woman centred and evidence-based. The findings will inform the development of a larger survey to explore attitudes towards labour definitions.

Key words: Latent phase, labour, definition, women, childbirth, midwives, evidence-based midwifery

Introduction

The latent phase of labour is recognised as a period of uncertainty for both women and midwives (Cheyne and Hundley, 2009). Admission to hospital in the latent phase has been shown to result in a cascade of unnecessary intervention (Janssen and Weissinger, 2014; Lundgren et al, 2013; Cheng et al, 2010; Klein et al, 2004; Jackson et al, 2003; Holmes et al, 2001), however, identifying the transition to active labour and when to come into the hospital can be challenging for women (Green et al, 2012; Barnett et al, 2008; Cheyne et al, 2007). A recent systematic review of the literature indicates that there is also uncertainty among professionals regarding the phases of labour, with no clear definition of the latent phase of labour (Hanley et al, 2016). The question is whether prolongation of latent phase labour is important – is it associated with adverse sequelae, or of concern to women?

The concept of discrete phases of labour could be argued

to be relatively new, introduced by Friedman, an American obstetrician in the 1950s (Friedman, 1955). Prior to this, doctors and midwives were rarely involved in caring for a woman until later in her labour (McIntosh, 2013). Friedman suggested the terms 'latent phase' and 'active phase' labour (Friedman and Kroll, 1969; Friedman, 1955) and proposed a rate of labour progression for nulliparous and multiparous women (Friedman, 1972) that has subsequently been challenged (Zhang et al, 2010; Gross et al, 2006; Zhang et al, 2002; Albers et al, 1996). Studies of women's experience indicate that while most women can define what they perceive to be the onset of labour, they view labour as a continuous process, rather than distinct stages (Dixon et al, 2014; Gross et al, 2003). Given that clinicians frequently have difficulty distinguishing between the phases (Lauzon and Hodnett, 2009) and women do not recognise them, the utility of defining distinct phases remains uncertain.

Literature review

There is evidence of considerable variation between international guidelines with regard to the labour phases. For example, the UK guidance issued by NICE defines the latent phase as a period of time, not necessarily continuous, when:

- There are painful contractions
- There is some cervical change, including cervical effacement and dilatation up to 4cm (NICE, 2014).

A similar definition is used by the Society of Obstetricians and Gynaecologists of Canada (SOGC) (Lee et al, 2016). In the SOGC definition dilatation is also the primary criterion but the society acknowledges that dilatation at which active labour starts may vary slightly by parity: 'Presence of uterine activity resulting in progressive effacement and dilatation of the cervix proceeding to active phase. It is complete when a nulliparous woman reaches 4cm dilatation and a parous woman reaches 4cm to 5cm. Cervical length is generally less than 1cm' (Lee et al, 2016: 846).

The American College of Obstetrics and Gynecology (ACOG) changed its definition of labour phases in 2014 in response to evidence that suggests many women do not enter active labour until 5cm to 6cm (ACOG, 2014). There is some indication that various countries in Central Europe are considering following this approach.

The authors' recent systematic review of the literature found only 14 studies that defined the latent phase of labour (Hanley et al, 2016). Of these studies, the majority (n=11, 79%) included cervical dilatation in the definition; however, there was no consistency in definitions with dilatation ranging from 2cm (one study), through 3cm (three studies) to 4cm (seven studies). In one study the end of the latent phase was defined differently for primiparous women (3cm) compared with multiparous women (4cm) (Ayangade, 1984).

The authors found more studies that included a definition of the onset of active labour (n=33) (Hanley et al, 2016). Again, cervical dilatation was the most common defining attribute (n=27, 82%). Similar variation was seen in the definitions with two studies using 2cm as the onset of active labour, 10 studies using 3cm to 4cm, and 15 studies using >4cm. In six of the studies, there was a more flexible definition used, for example, in four studies active labour was identified as being at the point at which the cervix begins to dilate >1cm per hour while two studies stated contractions leading to cervical change (Hanley et al, 2016).

Cervical dilatation remains the predominant attribute for defining both the latent and active phases of labour; other attributes were found in the authors' review (Hanley et al, 2016) and these are discussed later in the paper.

Background

The uncertainty around the definition of the latent phase of labour has been brought into sharp focus by research evidence that suggests that such definitions could be contributing to rising rates of intervention (Zhang et al, 2010). In the US the response to this evidence has been to revise the 'threshold' for active labour and to recommend a more expectant approach in the latent phase (ACOG, 2017). However, recommending that women are 'not admitted' to hospital until 6cm dilatation would

appear to be shifting the problem from hospital to community, and there is evidence that women view being sent home as a professional response, rather than a woman-centred response to their need for early labour care (Nolan and Smith, 2010).

At an international maternity research conference the authors of this paper witnessed a heated debate regarding the issues of assessment and care in early labour. Delegates indicated that there was a need for clarification of definitions, with some questioning whether definitions of latent and active phases were needed at all. Many indicated that a survey of conference attendees would be a valuable step and would set the context for future research. In this paper the authors report the findings of that survey.

Methods

This was an opportunistic, online survey of attendees of a multidisciplinary conference where midwives comprised the majority of delegates. The intention was to build on the conference discussion regarding the latent phase of labour, and to identify views regarding the need for a clear definition of the latent phase of labour. The survey was conducted prospectively after the conference and following ethical approval.

Sample and data collection

Conference attendees were invited to participate in an online survey by a single email invitation sent through the organising committee. Attendees included midwives, clinicians from other fields, academics, advocates and user representatives. The email provided detailed information about the survey and contained a link to the online data collection tool. Participants were asked to consent by clicking either 'agree to participate' or 'don't want to participate' on the landing page.

Ethical approval for the survey was obtained from Bournemouth University's research ethics committee. Approval was obtained by expedited review and prior to approaching the conference committee to request their support. Participation in the survey was voluntary; attendees were reassured that they could withdraw at any time and that non-participation or withdrawal would not affect them in any way. Those who did not consent were directed away from the survey to a page thanking them for their time.

Data were collected using a semi-structured survey tool delivered through SurveyMonkey. It contained four open and three closed questions relating to the latent phase of labour and took approximately 15 minutes to complete. Questions referred to the onset of the latent phase, the end of the latent phase, and the length of the latent phase. Demographic data were collected through questions on the discipline or field of expertise, location, age, gender and experience in maternal health; however, to ensure anonymity, the survey did not contain information that would personally identify participants, such as names, email or IP addresses. Reminder emails were not sent because of the need to distribute the survey invitation through the conference organisers.

Data analysis

Quantitative questions were summarised using simple descriptive statistics using IBM SPSS Statistics Version 24.

Open questions were analysed using content analysis and where participants gave a more detailed answer, these were analysed using a thematic approach. For the more qualitative answers, two researchers (SW and VH) coded all of the transcripts independently. Emergent themes were then discussed and agreed.

Findings

A total of 26 participants consented to the survey on the landing page, but four did not answer any questions and one answered only the first question. These five participants were excluded, leaving 21 completed questionnaires for analysis.

Participants

Participants came from 12 countries: UK (n=6), Ireland (n=3), Australia (n=2), US (n=2), Germany (n=1), Iceland (n=1), Israel (n=1), Netherlands (n=1), New Zealand (n=1), Norway (n=1), Spain (n=1), and Switzerland (n=1). The majority were midwives and researchers, female, aged over 50 and with more than 20 years' experience in the maternal health field (see Table 1).

Defining the onset of the latent phase

More than two-thirds of the participants (n=15) thought there was a need to define the onset of the latent phase (see Table 2, overleaf). Those in favour of a definition offered a wide range of characteristics to define onset with the most commonly cited one being contractions. Other physical characteristics cited included show, pain and cervical change (length, consistency and position). More detailed analysis of the proposed characteristics identified differing opinions about whether contractions should be regular and progressive, or irregular. Some participants' comments suggested more woman-centred definitions, which moved away from focusing on time, contractions and dilatation. For example:

"In the same philosophy as 'pain is what the patient says it is', latent phase should be defined by the woman's perception."

One response warned against measurement:

"Attaching a time to the onset so that length of latent labour can be measured is not important and may add to women and professionals' concerns."

Defining the end of the latent phase

The majority of participants (n=18) thought that there was a need to define the end of the latent phase (see Table 2). Characteristics defining the end of the latent phase most commonly included contractions and cervical changes. All participants who cited contractions mentioned that they should be regular and there were a number that included time-related measurements:

"Contractions that are at least three in 10 and have become longer and more intense."

"When the active phase is reached (4cm, regular contractions two/10 minutes)."

Participants frequently mentioned the progressive nature of labour in relation to both contractions and cervical dilatation. The participants who cited cervical change focused on changes in dilatation, but could not agree on the degree of dilatation

Table 1. Characteristics of participants (n=21)

	n (%)
Geographical location	
Europe	16 (76)
Asia/Pacific	3 (14)
North America	2 (10)
How would you define yourself? (could choose more than one)	
Midwife	18 (86)
Researcher	13 (62)
Academic	4 (19)
Service user	2 (10)
Other – not specified	1 (5)
Age group	
<20 years old	0
20-29	1 (5)
30-39	4 (19)
40-49	5 (24)
50-59	10 (48)
>60	1 (5)
Gender	
Female	19 (90)
Male	2 (10)
Time working in the maternal health field	
<5 years	1 (5)
5-10	6 (29)
11-20	2 (9)
21-30	7 (33)
31-40	5 (24)

expected in order to diagnose the end of the latent phase. Six participants stated a dilatation at which the latent phase ended: one said 2cm to 3cm, one said 3cm, three said 4cm, while the sixth participant said 4cm to 5cm.

Several participants gave reasons for why they felt that a definition is necessary. These related to the demands of current practice (particularly when working in hospital or a medical model of care) and avoiding unnecessary intervention:

"If we are to work within the current medical model where women's length of labour is timed and progress made is measured on the partogram, we need to ensure that active labour is not incorrectly 'diagnosed'. This inevitably will lead to unnecessary interventions when 'appropriate progress' as per the partogram is not made."

"I think it matters for the women and for us as midwives, especially when working in a hospital and being the one to decide when it's time to move the women in labour."

As with responses regarding labour onset, the importance of recognising progress through behavioural cues was also thought to be important:

"Visible and audible change in maternal behaviour, such as cannot talk freely through a contraction, breathing is more laboured and requires concentration."

Interestingly one participant thought that a definition was important for teaching purposes:

“A demarcation from latent to active phase may be necessary for teaching purposes.”

It was evident from a number of comments that the definition of latent phase was poorly understood and required further research.

Length of the latent phase

Participants were asked whether a prolonged latent phase mattered. The majority of participants answered ‘yes’ to this question (n=15), while a smaller number answered ‘no’ (n=6). However, comments indicated that the answer was anything but straightforward.

Most participants who responded positively clarified their answer by identifying that it mattered to the women. Comments included that a prolonged latent phase meant women became fed-up, exhausted, as well as irritated with the midwife when not progressing well:

“Only if it matters to the mother. For some women, prolonged latent phase is associated with decreased confidence, increased anxiety about ‘something being wrong’ with their body.”

Some suggested that defining the end of the latent phase of labour would enable strategies to support women through this stage if it became prolonged and so reduce the likelihood of any intervention:

“I think we should rather try to define a latent phase and find a way to help the women cope with it, help them to rest, sleep and try to find a solution if there is a problem.”

“It matters because women need to know to prepare themselves for energy conservation during a (potential) long latent phase. It matters because if women are not supported to see a long latent phase as a variation of normal, then they are likely to present for intervention before they actually need it.”

A number of participants who said ‘no’ indicated that lack of understanding regarding the latent phase made identifying ‘prolonged’ difficult:

“We do not know what is prolonged.”

“Feel that it is too subjective to define onset and end.”

Additional thoughts on the latent phase

An opportunity was given to the participants to add any additional comments about the latent phase. A number of participants mentioned that women should be encouraged to stay at home during the latent phase, with some responding more forcefully than others:

“Keep them out of the labour ward! Stay at home, with telephone support, or in an ante-room of an MLU, or in a dedicated antenatal ward in hospital, without any fuss or pressure to move them into the labour ward too early.”

One participant indicated that in his/her opinion the media was responsible for early admission:

“I think media coverage of labour is affecting this where women feel they need to go straight to the hospital at the first sign of a contraction.”

One participant summed up the situation well:

“Latent labour is currently very poorly understood and a challenge that midwives face daily in the context of busy maternity units.”

Table 2. Defining the latent phase

	n (%)
Do we need to define the onset of the latent phase of labour?	
Yes	15 (71)
No	6 (29)
If yes, what characteristics should we use to define the onset of the latent phase? (n=15)	
Contractions	13 (87)
– Regular	5 (33)
– Irregular	7 (47)
Cervical change	5 (33)
Show	4 (27)
Pain	4 (27)
Rupture of membranes	2 (13)
Woman’s perceptions	3 (20)
Woman’s behaviour (nesting, disturbed activities of daily living)	2 (13)
Do we need to define the end of the latent phase of labour?	
Yes	18 (86)
No	3 (14)
If yes, what characteristics should we use to define the end of the latent phase? (n=18)	
Contractions	13 (72)
Cervical change	14 (78)
Pain	1 (6)
Rupture of membranes	1 (6)
Woman’s perceptions	1 (6)
Woman’s behaviour (coping)	3 (17)

Discussion

This was an opportunistic survey with a self-selected sample from an international maternity research conference and, as such, it is limited in terms of its generalisability. The finding that two-thirds of participants consider a definition of the latent phase to be important may simply reflect the fact that those who did not consider it important did not respond to the survey. That said, the responses indicate the complex and confused state of our current knowledge and beliefs around the latent phase of labour, with the need for a definition being driven by a desire for evidence to inform current practice rather than being about woman-centred care.

The characteristics identified as defining the onset of labour are consistent with those reported by women (Gross et al, 2009; 2003). Regular painful contractions were a consistent criterion in all definitions of the latent phase in the literature (Hanley et al, 2016), but not all survey participants listed contractions as a criterion for either onset or end of the latent phase.

Greater controversy surrounded the end of the latent phase. Cervical dilatation was identified as being the key criterion for transition from latent labour to active labour. However, there was disagreement on the degree of cervical dilatation at which active labour started, with responses

ranging from 2cm to 5cm. This uncertainty reflects that noted in the authors' recent literature review of labour definitions (Hanley et al, 2016). There is growing recognition of the impact that early hospital admission can have on women, with some professional organisations changing their guidance regarding the latent phase of labour. For example, the ACOG now recommend expectant management for women prior to 6cm dilatation and suggest that for most women this is best managed outside of the labour unit (ACOG, 2017). This may require new approaches to providing women with information and support.

The problem is that cervical dilatation, as a defining characteristic of active labour, is difficult for most women to determine. Dixon et al (2013) found that women valued vaginal examinations to determine labour progress, but in most cases requesting a vaginal examination necessitates a hospital visit. Downe et al (2013) found that there had been little research into the relationship between routine vaginal examinations and outcomes for women and babies. They recommended that alternative ways of assessing labour progress, such as behavioural cues, should be explored. Indeed these were mentioned by participants in the authors' survey; however, again such assessments are likely to be conducted by midwives or other health professionals and in many countries this takes place in a hospital setting. Providing support outside of the labour unit was something that a number of participants in this study agreed with and that has been a feature of some models of UK midwifery care and investigated in randomised controlled trials in Canada and UK (Janssen and Desmarais, 2013; Spiby et al, 2008; Janssen et al, 2003).

The majority of participants felt that the length of the latent phase of labour mattered, but they rationalised this by highlighting that it really only mattered to women. Indeed recent research suggests that women's perceptions of the length of labour may be an important predictive factor in determining the risk of caesarean section (Janssen et al, 2016; Janssen and Weissinger, 2014). This suggests a need for some form of definition for latent phase labour and an ability to identify those women who need additional support during this phase of labour. Indeed, the recent Cochrane review on early labour has highlighted the limited nature of the evidence around labour assessment and the need for further research in this area (Kobayashi et al, 2017).

Limitations

This was a small opportunistic survey and the response was limited by the method of distribution. Gatekeepers, that is those who stand between the researcher and the participant (Lavrakas, 2008), are important to the conduct of studies, but are also known to have a significant effect on recruitment rates (McFadyen and Rankin, 2016). In this study the gatekeepers (conference organisers) agreed to a single email contact, so as not to inconvenience conference attendees. It is understood that the committee sent the email invitation to all attendees (approximately 100), but this could not be verified. The method of distribution also meant that a pre-notice to the survey link could not be sent or a follow-up with a reminder notification, both of which have been shown to generate a good response to internet-based surveys (Kaplowitz et al, 2004).

The survey was conducted in English as the opportunistic nature of the study did not allow the research team time to develop and test multiple versions of the survey tool. However, this was an English language conference so the authors do not envisage language to have limited participation. The survey was kept short, but there were a number of open questions to avoid leading participants. The study could, therefore, be considered a pilot and will enable the research team to develop a more sophisticated tool for future use. This would need to be tested to ensure that it is valid for use in different contexts. Cross-cultural research has been shown to be complicated by linguistic and contextual factors (Symon et al, 2013), and these would need to be considered in a future study.

Since participants came from across the globe, different terminology was used in the responses. Comparing pregnant women's experiences of pain to those of 'patients' may be uncomfortable to the UK-based reader, but to maintain authenticity we have retained the language used by participants in the quotes (Corden and Sainsbury, 2006).

Conclusion

Despite the limitations, the findings of this survey reflect the continuing debate within the maternal health community on the latent phase of labour. There is a need for more clarity around the latent phase (in terms of the definition and the support offered) if midwives are to provide care that is woman-centred and evidence-based. The findings will inform the development of a larger survey to explore attitudes towards labour definitions.

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Experiences of internationally qualified midwives and nurses in Australia and other developed nations: a structured literature review

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Abstract

Background. Midwifery is an internationally mobile profession, but there has been relatively little consideration given regarding the integration of internationally qualified midwives (IQMs), specifically from non-English speaking backgrounds (NESB), when practising midwifery in Australia and other developed nations.

Aim. The initial aim of this literature review was to explore literature relating to the experiences of IQMs from NESB working in Australia and other developed nations. Due to a lack of publications in this area, the aim was expanded to include research about IQMs and internationally qualified nurses IQNs from NESB and English speaking backgrounds (ESB).

Methods. Based on Cooper's five stages of research review (1989), a comprehensive search of 11 electronic databases was conducted. The databases included Medline, CINAHL and Scopus as well as grey literature. Search terms included 'internationally qualified midwives and nurses', 'overseas educated' and 'acculturation'. Mesh terms were combined with free-text words.

Findings. A total of 27 studies met the inclusion criteria. The findings indicate that challenges co-exist for both IQMs and IQNs while working in a new foreign healthcare system. Four common challenges were extracted from the included literature: communication challenges, cultural displacement, variations in midwifery and nursing practices, and bullying and discrimination.

Conclusion. Migration to new countries with diversity in language and cultural practices can cause a sense of vulnerability for IQMs and IQNs. These are increased with differences in midwifery and nursing practices and the highlighted risk of bullying.

Key words: Internationally qualified midwives, internationally qualified nurses, work integration, acculturation, evidence-based midwifery

Introduction

There is a growing reliance on international health professionals (IHPs) as an integral part of the health workforce in Australia and other developed nations; nevertheless, IHPs' transitional experiences come with challenges (Ho and Chiang, 2015; McCool et al, 2013; Boylston and Burnett, 2010). Published literature has highlighted reasons for IHPs' migration to developed nations, including the desire for a higher standard of living, opportunities for higher education and professional development to gain better pay (McCool et al, 2013; Kawi and Xu, 2009). However, contradictions are noted between the expectations of the IHPs' role before starting work and their experiences in the host countries (Higginbottom, 2011; Kawi and Xu, 2009). Kawi and Xu (2009) and Takeno (2010) report these to include higher intensity of workload in developed countries and not being legally allowed to perform some procedures they routinely used to undertake in their native countries. Consequently, this can cause the perception of being deskilled and devalued (Takeno, 2010; Kawi and Xu, 2009).

Evidence suggests there is a global health professional shortage (Goh and Lopez, 2016; Australian Nursing and Midwifery Federation (ANMF), 2011; International Council of Nurses, 2007), and it has been predicted this shortage will be around 12.9 million health professionals by 2035 (WHO, 2013).

With this ongoing shortage, Australia has not been exempt from health staffing problems (McCool et al, 2013; ANMF, 2011). For instance, statistics show a 40% decrease from 52,273 registered midwives in 2009 to 33,114 in 2014 (Australian Institute of Health and Welfare (AIHW), 2016; Australian Bureau of Statistics (ABS), 2013) with a further decrease to 32,651 in 2015 (AIHW, 2016). As well as looking at ways to improve capacity in health education as part of their health workforce strategies (ABS, 2013; Higginbottom, 2011), Australia, and more developed nations, recruit IHPs.

Australia has a growing multicultural population. Around 6.1 million Australians (26% of the population) were born overseas and 11.5 million (49%) were either born overseas or have one parent who was born overseas (ABS, 2017). This multicultural population influences the health professional workforce (AIHW, 2016).

Migrating to Australia to work as a midwife can be a complex process (Australian College of Midwives, 2016), and the first year of working has been reported to be a particularly challenging time (Xiao et al, 2014). Such challenges need to be explored and understood in order to gain insight into internationally qualified midwives' (IQMs) needs and how to support them (Higginbottom, 2011; Kawi and Xu, 2009).

Aim

The initial aim of this review was to explore literature related to the experiences and views of IQMs from non-English speaking backgrounds (NESB) working in Australia and other developed nations. Due to a lack of material, the aim was expanded to include work on IQMs and internationally qualified nurses (IQNs) from NESB and English speaking backgrounds (ESB).

Method

Study strategy

A comprehensive literature search was completed to find the most relevant and up-to-date research. Electronic databases included: Medline, CINAHL, PubMed, Embase, Scopus, Informit, AMED, ProQuest, PsycInfo and Ingenta. Grey literature sources were also included, such as Google Scholar, and reference lists of relevant articles were hand-searched.

Initial inclusion criteria focused on peer-reviewed, qualitative and quantitative research articles published in English between January 2000 and April 2017 that explored the experiences of IQMs from NESB practising midwifery in Australia and other countries. The initial exclusion criteria were articles discussing IQMs/IQNs from ESB, and IQMs/IQNs of NESB qualified in English-speaking countries. Studies looking at medical conditions were not included.

The initial terms used in the search included ('international qualified' OR 'foreign qualified') AND ('overseas trained' OR 'foreign trained') AND (midwife OR midwives) AND (experience* OR adjust* OR discriminate*). The key words were used without any limits, separately and in combinations. The Boolean search connector 'OR' was used to separate terms within the same search string while 'AND' was used to combine concepts. Relevant key words included 'internationally qualified midwives', 'overseas educated midwives', and 'internationally trained midwives'. Other search terms used were 'working overseas', 'experiences', 'views', 'adjustment', 'adaptation', 'transition' and 'integration' in various combinations.

After an initial search, one study was found that discussed support strategies to facilitate IQMs/IQNs' transition in the New South Wales Local Health Districts in Australia (Ohr et al, 2016). The inclusion criteria were widened to include IQMs from NESB and/or ESB. Two further studies were identified (Sidebotham and Ahern, 2011; Davies et al, 2010); these explored the experiences of UK midwives in Australia (Sidebotham and Ahern, 2011) and New Zealand (Davies et al, 2010). Because only three studies related to the experiences of IQMs from NESB and/or ESB were identified, the inclusion criteria were further expanded to include experiences of IQNs.

Final inclusion criteria

The extended inclusion criteria were peer-reviewed research articles reported in English discussing the experiences of IQMs/IQNs from ESB and NESB working in Australia and other countries between January 2000 and April 2017. There were no restrictions on study design, so qualitative, quantitative and mixed methods were all included. The review was undertaken with the following question in mind: what are the experiences of IQMs/IQNs in Australia and other developed nations?

Final exclusion criteria

Studies involving medical conditions, patients, carers or families were excluded. Studies in non-English were excluded, as translation of articles was not possible for this review.

Cooper's guide for literature review

A systematic and structured approach to the appraisal of research studies is useful to ensure a thorough and rigorous literature review (Cooper, 1989). The five steps outlined by Cooper (1989) guided this structured review. The first step was to 'formulate the problem'. For this review, the focus was exploring the experiences of IQMs/IQNs and the challenges when integrating into a foreign healthcare system. The second step was to 'search the literature and gather information'. Primary studies were retrieved using the above search strategy. The third step was to 'evaluate study quality'. The authors discussed potential biases to promote objectivity about the literature and evaluated the quality of the included research studies. Following the identification of the initial findings, these were discussed by all the authors to gain a consensus about the interpretation of the findings, and to provide an opportunity for further comments and suggestions; this also helped to minimise any bias. The fourth step was to 'analyse and interpret the data'.

All studies were reviewed and similarities and differences between the findings were identified. During the appraisal of the studies, a literature review matrix was developed using a word processing system as a graphic organiser. All studies were listed in the rows; themes and other factors related to the study design and findings were written in the columns; and notes were made about each study's content on the emerging themes. Data were therefore compared, synthesised and categorised into themes, and findings across the studies were integrated. Findings were subsequently compared and discussed, with discrepancies resolved through consensus, and were agreed by all review authors. The final step suggested by Cooper (1989) was to 'present the findings', which are discussed below.

Search outcomes

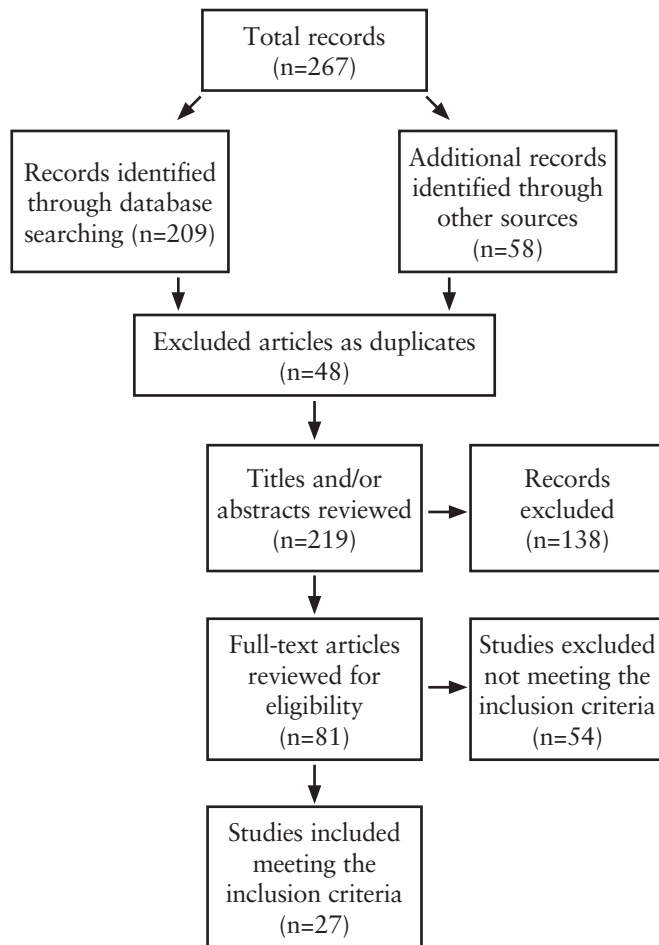
After searching the databases and cross-referencing hand-searched studies, 267 studies were retrieved. There were 48 duplicates noted by title. Following a review of the title and/or abstract, 138 studies were excluded for various reasons including lack of specificity to experiences of IQMs/IQNs and relevance to the search title. The full texts of 81 articles were further reviewed and, of these, 54 were excluded because they did not meet the inclusion criteria. A total of 27 studies met the inclusion criteria to be included in this review. Details of the search strategy are summarised in Figure 1 opposite.

Of the 27 studies identified, one study involved both IQMs and IQNs from NESB in Australia, two reported UK midwives' experiences in Australia and New Zealand, 15 reported experiences of IQNs from NESB and 10 on IQNs from NESB and ESB. Therefore, this review is over-represented by nursing studies. However, valuable insights can still be gained.

Findings

Literature appears to focus mostly on the migration of nurses and doctors, and midwives usually are categorised within

Figure 1. PRISMA flow chart: studies exploring IQMs' and IQNs' experiences



the context of nurse migration. A summary of the studies reviewed is in Table 1 (rcm.org.uk/learning-and-career/ebm). Four main themes were identified: communication challenges, cultural displacement, variations in midwifery/nursing practices, and bullying and discrimination. These findings are discussed below.

Communication challenges

Clear and accurate communication is central to midwifery and nursing practice (Clayton et al, 2016; Newton et al, 2012). It can impact on the provision of safe care, the understanding of patients' needs and, ultimately, the gaining of patients' trust. It is also a vital aspect of working within a team of healthcare professionals. Communication challenges have been identified in the literature as the most pressing issue for IQMs/IQNs from NESB for successful integration into a new foreign healthcare system (see Table 1 online). Two studies named this challenge as 'linguistic acculturation', which can go beyond fluency in language and signifies a more nuanced understanding of language (Ho and Chiang, 2015; Zhou et al, 2011). It has been reported that IQNs initially need to accept and adopt the host culture, as well as have a positive interaction with local colleagues, before focusing on learning and adopting accents, colloquialisms and body language. This acceptance and adoption of the host culture can also relate to IQMs

experiences. This review highlighted that a lack of knowledge about communication styles, both verbal and non-verbal, between IQNs from linguistically diverse backgrounds and host colleagues may lead to failure of achieving intercultural understanding (Xiao et al, 2014). Furthermore, Clayton et al (2016) highlighted that the patient's needs may not be fully recognised within a multicultural healthcare environment due to poor communication, resulting in a lack of trust and potentially poor outcomes for the patient.

Communication challenges may include the use of various metaphors and colloquial words which can lead to miscommunication, misunderstanding and conflict (Clayton et al, 2016; Ho and Chiang, 2015; Kawi and Xu, 2009).

Reviewed literature identified that communication challenges can also result in experiences of cultural isolation, being silenced and feeling homesick (Newton et al, 2012; Brunero et al, 2008). Homesickness can be a main source of stress for IQMs/IQNs. Reported symptoms can manifest in physical, cognitive, behavioural and emotional effects (Brunero et al, 2008).

Cultural displacement

Lack of familiarity with the local culture of the health practice is a key barrier for IQNs when attempting to adjust to a new foreign healthcare system (Clayton et al, 2016; Xiao et al, 2014; Newton et al, 2012; Takeno, 2010). This challenge can be even more difficult for migrants from culturally and linguistically diverse backgrounds (Magnusdottir, 2005).

The clash of cultures that can occur in multicultural societies can cause challenges for international and host health professionals, as well as patients (Xiao et al, 2014; Takeno, 2010). Challenges in understanding the host culture's values and beliefs can lead to conflict resulting in feelings of frustration, which may in turn increase the effects of culture clash (Clayton et al, 2016).

A qualitative study to explore Korean and Japanese nurses' perceptions working in Australia (Takeno, 2010) identified that diversity in culture and beliefs about the nursing role created the potential for misunderstandings. This study highlighted that one aspect of the challenge of cultural diversity related to working within new clinical conditions of which the participants had no experience. Psychological support of patients and levels of physical care in Australia were other aspects that were different (Takeno, 2010). Feelings of separation and not fitting into the dominant culture in the new workplace when communicating with colleagues has also been reported (Newton et al, 2012; Takeno, 2010; Konno, 2006).

Cultural pluralism, as a pivotal factor for a successful multicultural healthcare system, can be fostered by following some of the strategies recommended in the literature. These include: explaining the culture of the new country to IQMs/IQNs prior to starting employment through the implementation of bridging and orientation programmes (Higginbottom, 2011; Takeno, 2010); training of host colleagues to better understand the meaning of a multicultural team; and organisation-sponsored social events (Xiao et al, 2014; Zhou et al, 2011; Konno, 2006).

Variations in midwifery/nursing practices

Variations in nursing practices, along with a lack of familiarity with local technologies, drugs, documentation, policies and guidelines, are reported as a major challenge for IQNs (Ho and Chiang, 2015; Xiao et al, 2014; Newton et al, 2012). These variations and challenges may be similar for IQMs. Pilette's (1989) model of adjustment shows the first 12 months of employment as the acute adjustment phase. This model splits adjustment into four phases: 'acquaintance', which takes around three months; 'indignation', which is a period between the third and sixth months; 'conflict resolution', which occurs during the sixth to ninth months; and 'integration', which can be between the ninth and 12th months (Pilette, 1989: 278-80). However, the literature suggests the adjustment phase for IQNs from culturally and linguistically diverse backgrounds may take longer (Kawi and Xu, 2009) and this may be the case for IQMs from similar international backgrounds. In addition, IQNs from different educational backgrounds may face stressful situations due to different ways of undertaking clinical procedures (Clayton et al, 2016), which can result in frustration and anxiety (Brunero et al, 2008). Deskilling and lack of recognition of IQNs' capabilities, skills and experiences can cultivate feelings of invisibility and marginalisation, which may have a negative effect on self-esteem, confidence and wellbeing (Xiao et al, 2014; Higginbottom, 2011). These factors are important to consider and acknowledge as these may be similar for IQMs.

Sidebotham and Ahern (2011) pointed out that the role of midwives can differ between countries. For example, in the UK midwifery is an independent occupation, while in Australia it is not. Sidebotham and Ahern (2011) explored the experiences of UK midwives who migrated to Australia. In New Zealand, midwives had the right to prescribe and the capacity to examine newborn babies, which was not so common in the UK. Hence, UK midwives had to pass the prescribing and pharmacology course in New Zealand before registration. Some UK midwives reported that the challenges of working in New Zealand encompassed practice differences, and they noted feelings of frustration due to the lack of autonomy in using their knowledge while working as core midwives (Davies et al, 2010). A lack of mentorship due to an inappropriate adjustment protocol or the lack of trained mentors is also identified as a primary barrier to adjusting for IQMs/IQNs (Ohr et al, 2016; Xiao et al, 2014).

A survey study conducted by Ohr et al (2016) in Australia identified support strategies which were supportive in the transition of IQMs/IQNs into the New South Wales Local Health Districts System; in particular, a friendly atmosphere and good orientation into the culture and practices proved helpful. Conversely, it has been highlighted that unsupportive behaviours towards IQMs/IQNs may lead to feelings of mistreatment and disappointment (Kawi and Xu, 2009).

Bullying and discrimination

The literature highlighted multidimensional discrimination and cultural impositions experienced by IQNs in some healthcare systems of destination countries (Ho and Chiang, 2015; Newton et al, 2012). Diversity in race, colour, culture

or language can be a trigger of inequality of opportunities, injustice due to ethnic identity, and racism in the form of bullying by staff or rejection of care by some patients (Kawi and Xu, 2009). For IQMs and IQNs, racial discrimination can lead to intimidation, public humiliation, social exclusion and loss of confidence and professional authority (Newton et al, 2012; Sidebotham and Ahern, 2011; Hood et al, 2010).

Similar themes arose in Alexis and Vydelingum's (2004) study, which explored the experiences of IQNs working in the NHS. While discrimination was a key factor, the study illuminated participants' experiences such as: a lack of equal opportunity, absence of support, marginalisation, and bullying (Alexis and Vydelingum, 2004). This study identified the need for social justice and equality within the NHS. Alexis et al (2007) reported that IQNs had to tolerate and accept bullying behaviour to stay in the UK, as they held a temporary visa.

Furthermore, hostility from a minority of British nurses towards IQNs was reported by Gerrish and Griffith (2004). Those British nurses were reluctant to answer questions asked by IQNs. IQNs felt they could not report such behaviours to their managers, as their managers were from the same British backgrounds (Gerrish and Griffith, 2004). The concept of invisibility was also highlighted by Alexis et al (2007), as IQNs were ignored by their managers or other colleagues even when the subject of conversation was about the patient in their care.

The literature shows that language and culture are the main markers of differences that can increase the possibility that a stranger will always be a stranger (Zhou et al, 2010). Professional marginalisation caused by discrimination has also been reported by IQNs in a study by Deegan and Simkin (2010) in Australia. Allan et al (2009) identified that black nurses working in London hospitals had less opportunity for promotion than white nurses. This inequity was discouraging and led them to lose their confidence and professional power (Allan et al, 2009). Although black nurses reported they felt discriminated against because of skin colour (Allan et al, 2009), other studies reported the same experiences of discrimination by some groups of white English-speaking midwives who had migrated and worked in mainly white English-speaking countries (Sidebotham and Ahern, 2011; Davies et al, 2010).

Abusive and disrespectful behaviour from Australian medical colleagues towards midwives from the UK have also been reported by Sidebotham and Ahern (2011). This reported disrespectful behaviour indicates that there is an overarching problem when working in new foreign healthcare systems that crosses multidisciplinary professions (Sidebotham and Ahern, 2011; Zhou et al, 2010; Allan et al, 2009).

Discussion

Fitting into a different health clinical setting and being safe and competent in the new workforce takes time (Newton et al, 2012); this can also have a negative effect upon women's/patients' needs and trust (Clayton et al, 2016). Therefore, individual and organisational approaches are needed to ease the transitional period for IQMs/IQNs with the goal of enhancing their job satisfaction, as well as safe care provided by them.

The literature indicates that challenges following migration

appear more difficult for IQNs from culturally and linguistically diverse backgrounds (Ho and Chiang, 2015; McCool et al, 2013); this may give an insight into comparable challenges for IQMs from similar international backgrounds. It is apparent that many IQMs/IQNs from culturally and linguistically diverse backgrounds encounter communication challenges, even after passing an English test. To improve the effectiveness of communication within a team and achieve intercultural understanding, the literature recommended that adequate language support for IQNs from NESB be offered (Xiao et al, 2014; Jeon and Chenoweth, 2007). However, further research is required into the experiences of midwives from NESB so that support can be developed to meet their needs.

A clash of cultures and its consequences, feelings of isolation and not belonging, were broadly discussed by Konno (2006), Smith et al (2006) and Takeno (2010). In line with other studies, this review identified that the approach of health organisations can have considerable influence in enriching cultural pluralism. The organisational approaches may include the provision of bridging courses for new migrant staff prior to starting work, as well as educating and training of host managers/colleagues. It has been reported that training of host managers/colleagues can enhance better understanding of the meaning of a multicultural teamwork and increase cultural awareness and sensitivity. Arranging organisational social events may assist to bridge some gaps between migrants and host midwives and nurses (Xiao et al, 2014; Zhou et al, 2011; Konno, 2006).

Preparation/bridging courses can diminish health clinical variations concerning the quality of education (Gerrish and Griffith, 2004). For example, Canada provides the 'international midwifery pre-registration program', which is a nine-month bridging programme (Ryerson University, 2016). In contrast, in the US, the majority of IQMs must undertake at least one additional course from an accredited programme and pass a national certification exam (American College of Nurses-Midwives, 2016). However, it appears that limited provision and evaluation of support programs have been undertaken for IQMs in Australia and other developed nations.

Sidebotham and Ahern (2011) added a new insight into the concept of integration of IQMs, reporting that acculturation is not only influenced by language or cultural diversity. It emerged that UK midwives working in Australia had to find different ways to adjust that would enable them to continue to practise. These findings were similar to those of Davies et al (2010), who reported that acculturation into a new midwifery care system is affected by diversity of practice in different countries, despite similarities in language and social culture. However, similar to Sidebotham and Ahern (2011) and Davies et al (2010), Clayton et al (2016) also found that there were unmet expectations with regards to being unprepared for the new work environment and inadequate support structures in the destination countries.

The literature highlights that it is necessary to provide realistic information for future IQMs/IQNs prior to migration to prepare them to expect different approaches to clinical practice (Goh and Lopez, 2016; Ho and Chiang, 2015; Sidebotham and Ahern, 2011). A clear understanding

of what working as a midwife/nurse in the country of destination is needed. With well-planned preparation from IQMs/IQNs, along with good support from recruiting organisations, some of the identified challenges can be addressed. Interestingly, no studies could be found about the content of information and method of delivery of this information for IQMs/IQNs prior to their migration. Therefore, this subject is worthy of further investigation.

A clear trend emerged from the literature regarding experiences of bullying and discrimination by IQMs/IQNs (Xiao et al, 2014, Newton et al, 2012; Sidebotham and Ahern, 2011; Smith et al, 2006). Bullying is an ongoing problem, and it has been reported that approximately 25% to 50% of health professionals in Australia (Farouque and Burgio, 2013), and 44% of nurses in England may experience bullying at some point in their professional lives (Dellasega, 2009; Quine, 2001).

This review revealed that, notably, bullying can be initiated by racism towards IQMs/IQNs. Establishing strategies to induce change in health professionals' behaviour towards each other is a high-priority area, particularly when bullying is racially motivated. However, there is not enough evidence in the literature to identify the most effective strategies used to reduce bullying and discrimination. Therefore, further investigation of the relationship between strategies that can diminish bullying and discrimination is an area for future exploration.

A key finding of the review was that there appears to be a distinct gap in evidence exploring the experiences of IQMs moving seamlessly between professional cultures in Australia and other developed nations, as mentioned by Sidebotham and Ahern (2011). Therefore, it appears that further studies are needed to bring new insights about environmental stressors, personal and professional facilitators and barriers for IQMs, especially from NESB, to inform educational providers and other native colleagues working with IQMs from NESB. This review provides evidence to support the urgency for the development and evaluation of evidence-based studies and the provision of programmes to support this group of midwives.

Communication challenges have been identified as the key barrier for IQMs/IQNs from NESB. These challenges and culture clashes can negatively influence IQMs/IQNs' adjustment to new healthcare systems and so lead to cultural separateness and feelings of isolation, resulting in homesickness.

Conclusion

Midwives have long been internationally mobile, but relatively little attention has been paid to their needs, especially in their adjustment to the healthcare system of their destination country. Diversity in midwifery/nursing practices, as well as inadequate bridging programmes, orientation, mentorship and lack of support can create barriers that interfere with adjustment for IQMs/IQNs. Multidimensional bullying and discrimination may result in intimidation, public humiliation, social exclusion and loss of confidence and professional authority for IQMs/IQNs. With the lack of studies and growing reliance on, and acceptance of, IQMs, exploring the challenges of their integration and finding strategies to address their challenges is an important area of developing research and practice.

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The use of a Delphi survey to examine maternity high dependency care (MHDC) in obstetric units remote from tertiary referral centres

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Abstract

Background. Up to 5% of women in the UK will receive maternity high dependency care (MHDC), although there are varying opinions as to the defining features of this concept. This paper describes the rationale for, and design of, a modified three-round Delphi survey examining MHDC.

Objectives. To obtain a consensus on the definition and defining features of MHDC in obstetric units (OUs) remote from a tertiary referral centre. To examine if the definition for, and defining features of MHDC are the same for OUs remote from tertiary referral centres with differing annual birth rates. To investigate if the definition for, and defining features of MHDC are the same for the professional groups of doctors and midwives working in OUs with similar annual birth rates.

Method. The Delphi participants comprised midwives, obstetricians, and anaesthetists employed in seven OUs. Round one (qualitative) involved completion of a self-report questionnaire. During rounds two and three (quantitative), respondents rated their level of agreement or disagreement against five-point Likert items for a series of statements (n=106). The level of consensus for the combined percentage of strongly agree and agree statements was set at 80% for the second and third rounds. The round two statistical findings were not fed back to the respondents but, they were given the opportunity to provide additional qualitative comments throughout the second and third rounds.

Ethical approval was granted by the local research ethics committee and the relevant NHS research and development departments.

Conclusion. Where modifications are made to traditional Delphi surveys, the researcher must carefully justify the methodological decisions that have been taken.

Key words: Maternity/obstetric high dependency care, maternal critical care, levels of critical care for adults, Delphi survey, modified Delphi study, consensus methods, evidence-based midwifery

Introduction

Maternity high dependency care (MHDC) is a complex entity and although the Intensive Care Society (ICS) Levels of Critical Care for Adults (ICS, 2009) classification system has been introduced to provide operational definitions of 'high dependency' and 'intensive care', it is unknown how widely this system has been adopted in UK obstetric units (OUs). The literature suggests there are likely to be variations between OUs regarding MHDC provision, including the facilities offered, the availability of professional expertise, and the complexity of the monitoring and treatments provided (Maternal Critical Care Working Group, 2011). The provision of safe high-quality maternity care is paramount and further research exploring the ways in which MHDC is conceptualised and defined may assist with service planning.

Background

Increasing numbers of women are classified as having complex pregnancies due to co-morbidity and/or obstetric complications and technological/medical advances (Robson and Waugh, 2013). While some acutely ill women will require admission to an intensive care unit (ICU) for complex treatments including organ system monitoring and support, others may receive MHDC within the OU setting

(Maternal Critical Care Working Group, 2011). MHDC has been positively evaluated in terms of bringing the requisite obstetric and critical care expertise together and promoting continuity of care for women and their families (Saravanakumar et al, 2008).

The national percentage of women receiving and surviving MHDC is presently unknown. Surveys suggest that 4.2% to 5% of women require MHDC (Hussain et al, 2011; Saravanakumar et al, 2008). By contrast, a retrospective study of high dependency admissions on a Scottish labour ward with an annual birth rate of 6000, identified that over an eight-month period in 2010, the admission rate was equivalent to 1.8% of all births (Rajagopal et al, 2011).

Some acute NHS trusts have OUs classed as regional or national centres of excellence, termed tertiary referral centres, while others are classed as district general hospitals (DGHs) (Department of Health, 2015). DGHs may be geographically near to, or remote from, a tertiary referral centre. The *Birthplace* national survey determined that of 180 OUs, 49% had one or more obstetric high dependency unit (HDU) beds (Redshaw, 2011). Rawal et al (2008) identified that where OUs do not have specific maternity high-dependency beds, care is either provided in a room on the labour ward (44%), a surgical HDU (34%), or in the obstetric theatre recovery area (22%).

Defining MHDC

According to the ICS (2009) and the Maternal Critical Care Working Group (2011), level 1 care includes:

- Care of women requiring additional monitoring/interventions (ICS, 2009)
- Step-down care from a higher level (ICS, 2009)
- Women with neuraxial analgesia, diabetes requiring insulin infusions and those with medical disorders (Maternal Critical Care Working Group, 2011).

The Maternal Critical Care Working Group (2011) provides examples of level two care (ICS, 2009) in the context of the obstetric population, and these include:

- Extended post-operative care (although this is not defined)
- Step-down care from level three to level two
- Respiratory support (50% or more oxygen via a face mask to maintain oxygen saturations or continuous positive airway pressure or bi-level positive airway pressure)
- Cardiovascular support (intravenous antihypertensives for blood pressure control in pre-eclampsia, central venous pressure (CVP) line for fluid administration and monitoring to guide therapy)
- Neurological support (administration of magnesium sulphate to control seizures and intracranial pressure monitoring)
- Hepatic support (management of acute fulminant hepatic failure caused by haemolysis, elevated liver enzymes and low platelets (HELLP) syndrome or acute fatty liver).

Examples of level three care include:

- Invasive mechanical ventilation (intubation and ventilation) and support of two or more organ systems (ICS, 2009).

Expert opinion suggests that women receiving MHDC may be classed as receiving either level one or level two care, or solely level two care (Scrutton and Gardner, 2012). In contrast, level one care has been equated with high-dependency care by the Maternal Critical Care Working Group document and ICS levels two and level three described as 'maternal critical care' (Maternal Critical Care Working Group, 2011). Kuukasjarvi and Waite's (2012) retrospective audit of case notes in a UK teaching hospital over a one-week period in 2010 categorised the level of care each woman received. In total, 66 women admitted to the labour ward had their care 'mapped' against the ICS levels of care – 26% of women (n=17) required level zero care, 71% (n=47) required level one care and, 3% (n=2) required level two care. Given the inconsistencies regarding the definition of MHDC, further clarification is required which is based on robust evidence (James et al, 2011).

Indications for MHDC

A contemporary UK retrospective survey of MHDC provision in a tertiary referral unit conducted over a two-year period, using data from electronic records, found that 50% of women were admitted for obstetric haemorrhage, 16% for hypertensive disorders, and 10% for cardiac disorders

(Whitworth et al, 2016). The researchers acknowledge the findings may not be generalisable to OUs that do not provide tertiary level care, because it is suggested there may be a higher prevalence of MHDC in tertiary referral centres (Whitworth et al, 2016). Overall, there are indications that more women receive MHDC for obstetric reasons than comorbidities alone (Whitworth et al, 2016; Saravanakumar et al, 2008). However, these studies comprise low-level evidence and have the highest chance of bias (Joanna Briggs Institute, 2016).

Characteristics of MHDC

High-dependency care is characterised by higher levels of staff to patient ratios (typically either one staff to one or two patient(s) ratio), than the allocation on general hospital wards (Association of Anaesthetists of Great Britain and Ireland and the Obstetric Anaesthetists' Association, 2013; Garfield et al, 2000). The 'Birthrate Plus' tool, used for calculating midwifery staffing levels, uses a five-point classification system (I-V), where V represents the work involved caring for women, such as those requiring high-dependency care (Ball et al, 2013). Women falling into category V require a ratio of 1.4 whole-time equivalent midwives per woman while on the labour ward (Ball et al, 2013). Although the Birthrate Plus tool provides a comprehensive and pragmatic approach to calculating staffing levels, its impact on clinical outcomes requires additional investigation (NICE, 2015). Consequently, further research calculating definitive midwife to woman ratios for those requiring MHDC is required.

In terms of the physiological monitoring characterising MHDC, a retrospective audit of MHDC provision in a UK obstetric tertiary referral centre conducted over a 23-year period identified that 22% (n=303) of women required invasive monitoring with an arterial line, 1% (n=14) received CVP monitoring, and 7% (n=96) required both (Saravanakumar et al, 2008). A more recent audit of women requiring MHDC over a four-week period identified that of 42 women receiving MHDC, 33% (n=14) required monitoring with arterial lines (James and Barclay, 2012). This is a higher percentage than earlier reports suggest, but may in part, reflect the higher numbers of women receiving MHDC in tertiary referral centres (Whitworth et al, 2016).

Delphi study context

Limited evidence suggests that tertiary referral centres are more likely to provide MHDC than DGHs (Whitworth et al, 2016; Saravanakumar et al, 2008). Smaller DGHs may not have the necessary resources or clinical expertise to provide MHDC on the labour ward and so transfer women to the ICU, or a tertiary referral centre if feasible (Simpson and Barker, 2008). The highest transfer rate of acutely ill women to ICU in a dated survey by Cordingley and Rubin (1997) was noted for OUs with annual birth rates of 1000 to 1999 (median 1.84 per 1000 deliveries, range 0-5.52), and transfer rates gradually fell as the annual birth rate increased (2000 to 2999, median 1.45; 3000 to 3999 median 1.17; 4000 to 4999 1.00) (Cordingley and Rubin, 1997: 158). Similar findings have been reported more recently in the Netherlands (Zwart

et al, 2010). Consequently, there may be local variations in the characteristics of, and definition for, MHDC. To date, there is limited published research examining healthcare professionals' understanding of the concept of MHDC in DGHs with varying annual birth rates (Cordingley and Rubin, 1997), and is an aspect of service provision requiring further investigation. There is no research investigating if midwives and doctors who work in OUs with similar annual birth rates, share the same views regarding the defining features of MHDC. This is an important consideration given that cohesive multidisciplinary team (MDT) working is a vital factor in promoting safe MHDC provision and some midwives may feel inadequately prepared to provide this type of care (Cockerill et al, 2011; Bench, 2007).

Study aims and research questions

The overarching aim of this research was to 'determine what constitutes high-dependency care in OUs remote from tertiary referral centres'. The research aim was addressed through the following objectives, which were to:

- Achieve a consensus on the definition for, and defining features of MHDC
- Examine whether the definition for, and defining features of MHDC are the same for OUs that have different annual birth rates and are remote from a tertiary referral centre
- Investigate if the definition for MHDC and its defining features are the same for the professional groups of doctors and midwives, who work in OUs with similar annual birth rates that are remote from a tertiary referral centre.

Method

The Delphi method, a survey approach described by Linstone and Turoff (1975) was utilised to obtain data from experts currently involved directly or indirectly in the provision of MHDC. Key features of the Delphi method include the formation of an expert or 'informed' panel, anonymity of participants, iteration, controlled feedback, and statistical aggregation of group response (Linstone and Turoff, 1975; Sackman, 1975). Delphi studies are undertaken in a series of rounds, and the data gathered may either be quantitative, qualitative, or a combination of both (Bramwell and Hykawy, 1999; Linstone and Turoff, 1975; Sackman, 1975).

The Delphi method is suited to examining complex issues in health and social care where agreement is sought, and its main purpose is to gain consensus about an issue where there is contention (Keeney et al, 2011). The MHDC Delphi survey consisted of three rounds in total, and a modified technique was utilised whereby the statistical results obtained during the second round (R2) were not fed back to the respondents in round three (R3) (Endacott et al, 1999). There are differing opinions as to the number of rounds that should be conducted in Delphi surveys ranging from two to five (Mullen, 2000). In this instance, it was decided to conduct a three-round survey, as described by other researchers (such as Endacott et al, 1999; Green et al, 1999).

Study setting

Seven OUs situated in southern England (see Table 1) were accessed to provide a source of relevant experts for the Delphi survey. The OUs were chosen as they were representative of DGHs within the same region, but had lower annual birth rates than the tertiary referral unit situated a significant geographical distance away from the seven OUs. OUs E-G were situated in relatively rural locations, while OUs A-D were situated in more densely populated areas, but served both urban and rural populaces. None of the OUs had a designated team of midwives responsible for providing MHDC. The Delphi method was a convenient means of gaining data due to the large geographical distances between the participants (Adler and Ziglio, 1996).

Table 1. Characteristics of OUs where participants worked

OU	Type of unit	Births per year at time of survey	MHDC beds
A	OU/alongside midwifery-led unit	3300	Not specified
B	OU/freestanding midwifery-led unit	3300	1
C	OU including midwifery-led care	4000	1
D	OU including midwifery-led care	4500	2
E	OU including midwifery-led care	1700	0
F	OU including midwifery-led care	2200	0
G	OU including midwifery-led care	1500	0

Sample size and recruitment

Multidisciplinary team-working is a crucial aspect of MHDC (Centre for Maternal and Child Enquiries (CMACE), 2011) and 14 professional titles comprised the multidisciplinary team of obstetricians, anaesthetists and midwives who made up the expert group, see Table 2 online at rcm.org.uk/ebm

For every OU (n=7), one or two experts (where possible), were asked to represent each of the 14 professional titles comprising the expert group. This provided a maximum sample size of n=140 for the first wave of professionals who were asked to participate. The names of potential participants were obtained from the HoMs/clinical directors and where more than two names were provided for a professional title (for example, Band 6 midwives), a random sampling procedure was used to determine which professionals would be approached. Random sampling ensured that all potential participants had an equal chance of being selected, thereby reducing researcher bias (Polit and Hungler, 1995). The participants were sent a covering letter, participant information sheet, the R1 Delphi questionnaire, a biographical data sheet and a stamped return envelope.

If an expert did not return the completed self-report

questionnaire within two weeks, or declined to participate, another expert with the same professional title was (where possible), randomly selected and asked to participate (Hung et al, 2008). This process was used to enhance the R1 return rates (Asch et al, 1997), and meant another 53 experts were invited to participate. In total, 193 experts were asked to participate in R1 of the Delphi survey.

The accepted sample size for a Delphi survey has been debated, with sample sizes ranging from approximately 15 (Bramwell and Hykawy, 1999) to multiples of 100 (Scapolo and Miles, 2006). The sample size for this study was based on previous Delphi surveys (Scapolo and Miles, 2006) and the recognition that not all the expert titles stated could be represented by large numbers of staff. However, it was also acknowledged that where there is heterogeneity in the characteristics of the experts, larger sample sizes are required (Skulmoski et al, 2007).

Ethical considerations

Ethical approval was granted by the local research ethics committee and the relevant NHS research and development departments. It was highlighted that participants would be able to contact the researcher for further information and clarification throughout the research as required, reflecting the need for a dynamic process of informed consent (Munhall, 1988). All study participants were identified by numbers which ensured subject anonymity. No names were used on written records and confidentiality was assured.

Round one data collection and analyses

The R1 self-report questionnaire consisted of the open-ended question: 'What constitutes high-dependency care in the maternity unit setting?' Participants were given instructions that included answering the research question as comprehensively as possible. They were informed they could use single words, phrases, statements, and paragraphs, and were asked to include all aspects of MHDC they felt to be relevant. Biographical data sheets were also completed.

Questionnaire data were transcribed verbatim by the researcher. The qualitative data analyses were underpinned by a generic approach (Cooper and Endacott, 2007). This was chosen as it is important in Delphi surveys to ensure that the qualitative R1 findings remain true to the respondents' initial thoughts and opinions, with low levels of abstraction, so respondents may easily recognise their R1 data in the R2 questionnaire (Keeney et al, 2011). The analytical method chosen was qualitative description (Neergaard et al, 2009). This is used to produce a 'rich, straight description' of an issue with a low level of conceptualisation (Neergaard et al, 2009: 2). Overarching themes emerged from the linking of the codes and categories derived from the data. The analysed data were reviewed and no major revisions to the categories and themes arising were required, demonstrating interpretive reliability (Burns and Grove, 2003).

Round two data collection and analyses

The statements comprising the R2 questionnaire were developed using all of the codes that had been formulated

from the R1 data (Keeney et al, 2011). The research team did not differentiate which codes were more or less relevant when formulating the statements. Every code generated a statement and the researcher did not add or remove any statements. It was important for the R2 questionnaire to accurately reflect the respondents' first round opinions and not those of the researcher (Keeney et al, 2011). The 'defining of questionnaire content' by the respondents themselves is viewed as a factor that enhances the internal validity of Delphi studies (Endacott et al, 1999).

The codes comprising the R1 theme of 'service delivery' were not included in the R2 questionnaire but this theme informed a second research phase. It was considered inappropriate to seek consensus on factors such as the environment where MHDC was provided, as these were largely beyond the control of staff in the individual OUs.

During R2 the participants were asked to rate their level of agreement or disagreement on a five-point Likert scale for a series of statements (n=106) based on the R1 codes. The opportunity for additional qualitative comments was also provided. A final question was included to determine the respondents' familiarity with the ICS's (2009) 'Levels of critical care for adult patients' classification system as some, but not all respondents had referred to this system during R1. The questionnaire was piloted with six maternity care professionals not participating in the Delphi study. The R2 questionnaire was distributed to the 85 participants who returned the R1 questionnaire. A reminder pack was sent to the non-responders after approximately two weeks.

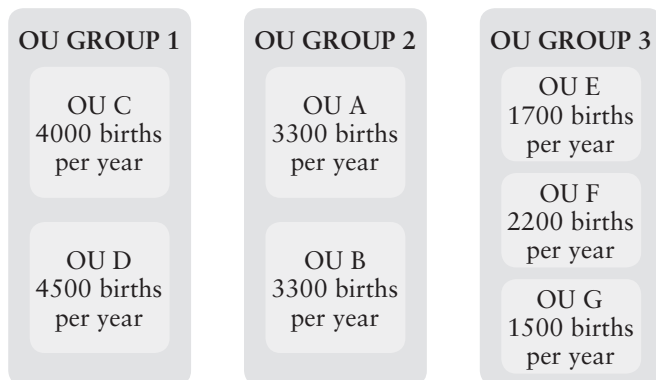
The R2 quantitative data were entered into SPSS 17.0 (SPSS Inc, 2008) and each statement was analysed individually using descriptive statistics. The median scores and interquartile ranges were calculated for each statement (1=strongly disagree (SD), 2=disagree (D), 3=neither agree nor disagree (NAND), 4=agree (A) and 5=strongly agree (SA)). The median scores informed the process of reducing the number of statements to be included in the third round, while providing a broad overview of the data. The combined percentage of SA and agree A scores and percentage of SD and D were also calculated for every statement. The level of consensus for the combined percentages of SA/A or SD/D statements was set at $\geq 80\%$ (Raine, 2006; Green et al, 1999). This level was chosen as it had been used successfully in previous studies (Raine, 2006). Also, it was necessary to make a pragmatic decision and set a level of consensus that would be attainable when seeking the opinions of different professional groups, working in different OUs, while being credible in clinical practice.

The respondents' data were grouped and analysed in the following sequence: For all seven OUs combined; by OUs with similar annual birth rates (see Figure 1); by professional title (doctor/midwife) working in the OU groups.

Round three data collection and analyses

The R3 questionnaire derived from the R2 results. A reductionist approach (Green et al, 1999) was used to develop the questionnaire and reduce the number of statements returned to the respondents during the third

Figure 1. Birth rates for the OUs forming the OU groups



round. The R2 statements with median scores of four and a level of consensus of 80% or more were removed from the R3 questionnaire, unless respondent comments suggested further exploration in the final round was necessary.

Those statements with median scores of one (strongly disagree), two (disagree) and five (strongly agree) were also excluded from the R3 questionnaire, unless comments provided by the respondents indicated the need for further exploration or rewording. Removal of some statements reduced the number of statements from 106 in R2 to 47 in R3. The screening and removal of certain questions by the research team allowed respondents to concentrate on important aspects (for example, questions where consensus was not achieved, or had been reworded in response to the respondents' R2 comments) (Martino, 1993).

Adopting a modified approach, the R2 statistical results were not fed back to the respondents during R3, alternatively, the respondents were given the opportunity to provide written comments during R2 and R3. This strategy was implemented to offset a criticism that respondents are unable to discuss or clarify their opinions during Delphi surveys and to reduce the chance of them forming a specious or manipulated consensus (Keeney et al, 2011; Sackman, 1975).

The first section of the R3 questionnaire asked respondents to decide whether a list of conditions and interventions (n=15) warranted intensive care as opposed to MHDC. These questions were developed in response to respondents commenting that intensive care would be more appropriate than MHDC for some of the R2 statements. The second part of the R3 questionnaire asked participants to rate their level of agreement or disagreement for a series of statements (n=32) relating to MHDC, using Likert type items as in the second round.

The R3 quantitative data were entered into SPSS 17.0 and analysed using descriptive statistics as for R2. Part one of the questionnaire calculated the percentage of 'yes' and 'no' responses provided by the respondents. For part two of the questionnaire the frequency of SA/A and SD/D agree statements were calculated, and the qualitative comments were tabulated. During R3 the level of consensus for the combined percentages of SA/A statements remained at $\geq 80\%$ (Raine, 2006). The respondents' data were grouped and analysed using the same sequence as for R2.

Strengths and limitations

To obtain a true reflection of MHDC, this modified Delphi survey included professionals with clinical, managerial, strategic, educational and governance roles. In total, these professionals reflect the 'real world' views of the OU team who provide MHDC (either directly in terms of 'hands-on care' or indirectly).

The decision not to feedback the statistical findings to the respondents during R3 may be identified as a study limitation by proponents of the traditional Delphi survey (Sackman, 1975). However, the inclusion of the respondents' qualitative comments during R2 and R3 enabled them to clarify their responses, adding greater depth and clarity of meaning to the descriptive statistics. The respondents' R2 comments also influenced the content of the R3 questionnaire, thereby enhancing both its content and face validity.

Delphi studies are lengthy and labour intensive (Mullen, 2000). History (events that may alter respondents' opinions between rounds) threatens the internal validity of Delphi surveys, and the longer a survey takes to complete, the greater this threat becomes (Keeney et al, 2011). The MHDC Delphi study took over a year to complete and is thus identified as a study limitation.

Conclusion

A modified Delphi survey was conducted to seek consensus on the definition and defining features of MHDC, as the limited published literature identifies differing opinions regarding the concept. Delphi surveys are appropriate for examining complex aspects of clinical practice where consensus is sought. When modified approaches are undertaken, the researcher must carefully justify the methodological decisions that are made. Moreover, the somewhat lengthy nature of Delphi surveys and the possible impact on internal validity must be acknowledged. The findings of this modified Delphi survey will be reported in the next issue of *Evidence Based Midwifery*.

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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

RCM conference speakers confirmed

An array of speakers have been confirmed for the RCM Annual Conference 2018. They range from academics, lecturers and campaigners to midwives, student midwives and even a poet. The speakers will lead lively debates, exploring the hot topics in the profession through a series of keynote sessions, workshops and seminar sessions. The conference has already reached capacity, but those wishing to attend can still enter their details on the online waiting list. The two-day event is free to attend and is being held in Manchester on 31 October and 1 November. For more information, visit rcmconference.org.uk

Iolanthe awards to open

The Iolanthe Midwifery Trust will be accepting applications for next year's awards from November. The Iolanthe Midwifery Research Fellowship and the Iolanthe Midwives Awards are open to midwives only. The Jean Davies Award is open to midwives and midwifery students who are also members of the RCM, while the Iolanthe Student Awards are open to midwifery students. The trust values diversity and welcomes applications from all sections of the community and its website features guidance on how to register and apply for the awards. The trust aims to promote and improve the care of mothers, babies and families through awarding grants and fellowships. For more information, visit iolanthe.org

Wellbeing of Women research grants

Applications for the next round of research grants from Wellbeing of Women are set to open in November. The charity funds outstanding projects in basic science, clinical or translational research in the areas of pregnancy and childbirth, including pre-term birth, miscarriage and fertility, along with wellbeing issues, such as menopause, incontinence and prolapse, sexual health, menstrual disorders, endometriosis and gynaecological cancers. The upper limit for the grants is £200,000 in total over one to three years. For more information, visit wellbeingofwomen.org.uk

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