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The Historic and Political Context of Midwifery in 2011

This issue of the International Journal of Childbirth is appearing at a historic moment in modern midwifery. Professional journals serve to inform, to share ideas, and to initiate debate. They are a resource for evidence. And, lest it is overlooked, they reflect a political and thereby historical context through their content. What are the issues that are important, and why are they given at this point in time? Thus, it is important, as this issue of the journal goes to press, that we situate midwifery within its political and historic context at this point in time in 2011.

We have arrived at an important crossroad in the history of modern midwifery. We are in the process of defining and developing the profession within the context of functioning maternity care systems, especially in low-income countries. The last couple of decades have seen an unfortunate demise of the midwifery profession in many areas of the world. With the introduction of "skilled birth attendants" 10 years ago, many countries chose to create new cadres of community-based health workers who were trained in various midwifery skill sets. Unfortunately, in many of these countries, there was not also a commitment to educate fully competent midwives to train and supervise these cadres. In other countries, specific licensure or certification for midwives was stopped. The result is that midwives could no longer practice midwifery as a separately recognized profession but rather remained within the nursing workforce as nurses with midwifery training but without specific regulated status. Thus, midwives in many countries throughout sub-Saharan Africa and the Caribbean are simply known as nurses, without any recognition or protection of their scope of practice, prescriptive authority, or licensure process. In the absence of protected licensure, certification, or registration, there is no way of knowing how many midwives are practicing in a given country. Therefore, it is difficult to provide in-service training planning, to identify distribution of midwives, and to organize for the improved practice of midwives.

Midwifery as an autonomous identity has all but disappeared in many parts of Anglophone Africa, Caribbean, and Asia. It is in these areas of the world where some of the highest levels of maternal, newborn, morbidity and mortality occur today. Where women were recognized globally as experts in maternal care—such as in South Africa, India, today, midwives are hardly recognized as in their own right. It is in these areas of the world where many women and children also continue to lack of education and lack of nourishing feeding in insecure, high-stress environments.

In other areas of the world, as in the countries, the last decades have seen that practice of midwives was shrinking. Where midwives were known as experts in pregnancy and in the first weeks of life of the newborn continuity of care and care provider has assembled, and midwives in high- and middle-income countries have relinquished care for the mother within hours or days of birth, a summation of care from home to hospital and then to care through pregnancy, birth, and postnatal care has been highlighted as essential to high-quality maternal and newborn services, midwives must expert status in both of these continuums.

During this triennium (2008–2011) the International Confederation of Midwives (ICM) direction to the board to strengthen the regulation, and professional associations and to strengthen the image of midwifery international partners. The board has mandate under the management of our several, Agnetta Bridges, and the staff at ICM in The Hague, Netherlands. During this time it has become apparent from interactions midwives and midwifery leaders throughout that now is the time for midwifery to soli-
Midwifery-led services must become the norm of care for all low-risk women and their newborns globally, whether in community or hospital, rural or urban, and low-income or high-income settings.

At the ICM, we have just completed (2011) the foundation documents to establish high-quality midwifery services. These represent the three pillars of a strong profession in each country: education, regulation, and association. It is now well recognized that if any one of these pillars is weak, the entire profession is weak. We have recognized the essential need for high-quality midwifery education programs with sufficient access to clinical care taught by midwives. We have also recognized the critical need for regulation for midwives that protects our scope of practice and guarantees licensure, certification, or registration that specifically protects midwives to practice autonomously as midwives within health regulations.

These global standards have been produced by task forces of midwifery experts from all regions. The ICM has also updated our essential competencies for basic midwifery practice. These competencies form the backbone of our education and regulation standards. These documents are timely. Midwifery has been identified by the World Health Organization (WHO), the World Bank, the United Nations Children’s Fund (UNICEF), and the United Nations Population Fund (UNFPA) as a critical workforce in achieving Millennium Development Goals (MDGs) 4, 5, and 6. As governments are racing to achieve their targets within the MDGs, ministers and policy makers are seeking guidance from the ICM to develop high-quality education and regulatory processes. These 5 years to 2015, form a critical window of time for midwifery globally.

As this journal is going to press, our global partners—under the coordination of the UNFPA and including the ICM and International Federation of Gynecology and Obstetrics (FIGO) along with WHO, other United Nations (UN) agencies, the White Ribbon Alliance, the Partnership for Maternal, Newborn and Child Health, and the Netherlands, Sweden, Norway, and United States—are preparing a State of World’s Midwifery Report. This groundbreaking report will detail the current status of midwifery in the 60 low-income countries with the highest rates of maternal and newborn morbidity and mortality. The report will also discuss the best practices in all countries and identify the challenges facing midwifery globally. Further, this report will also provide guidance on the current data related to midwifery, as well as current issues that must be addressed.

As the world looks to midwives and midwifery services to fill a critical gap in maternal and newborn care, we must all be committed to do the work, to improve our education and regulatory institutions, to strengthen our associations, and, most critically, to contribute to the development of evidence through practice and research. We must work together across the borders of countries and our academic institutions. We must share our evidence and practice and strengthen our networking. We must develop research-based master’s level programs for midwives especially in the Americas, the countries of the Middle East, Africa, and Asia.

This journal is critical to our success. As midwives consider areas of research and analysis, it is important to keep in mind the two areas that will contribute in strengthening the profession globally:

1. Evidence on best practice in normal physiological pregnancy, birth, and postpartum for both the mother and her newborn.
2. Evidence on effective midwifery-led services in the community (whether at home or in midwifery-led out-of-hospital facilities), as well as in the hospital level. This evidence must be gathered from high-, middle-, and low-income settings in all countries.

This issue of the International Journal of Childbirth is a special event at a historic time for midwifery globally. With the deepest gratitude to Denis Walsh, Kerri D. Schuiling, and Soo Downe for their vision and work to make the International Journal of Childbirth a reality, may its pages be filled with evidences, opinions, accomplishments, and challenges that will ultimately strengthen midwifery services and thereby improve the lives of women and their newborns wherever they live.

Bridget Lynch
President, ICM

At the International Confederation of Midwives (ICM) Congress in Glasgow, United Kingdom, in 2008, the ICM launched its Regulation Standing Committee to provide advice to the ICM board and its council. As one of its key areas of work, the board agreed to establish a Regulation Taskforce, which was charged with developing *Global Standards for Midwifery Regulation* (2011). It was decided that the best way to progress this work was for the Regulation Standing Committee members to form the Regulation Taskforce. Membership of the Standing Committee on Regulation/Regulation Taskforce includes the ICM board member with responsibility for regulation (Karen Guilliland), Co-Chairs Sally Fairman (chair, Midwifery Council of New Zealand) and Louise Silverton (Royal College of Midwives, United Kingdom), and two representatives from the four ICM regions (Asia-Pacific, Africa, Europe, and Americas).

The *Global Standards for Midwifery Regulation* (2011) were considered by the ICM board at the December 2010 meeting, ratified in February and will be presented to the ICM council at their meeting in Durban, South Africa, in June 2011. The taskforce will be running workshops on the development and implementation of the standards during the ICM congress.

**OVERVIEW**

During 2010, the ICM developed the ICM *Global Standards for Midwifery Regulation* (2011) in response to requests from midwives, midwifery associations, governments, United Nations (UN) agencies, and other stakeholders. The goal of these standards is to promote regulatory mechanisms that protect the public (women and families) by ensuring that safe and competent midwives provide high standards of midwifery care to every woman and newborn. The aim of midwifery regulation is to support midwives to work autonomously within their full scope of practice. By raising the status of midwives through regulation, the standard of maternity care and the health of mothers and newborns will be improved.

The *Global Standards for Midwifery Regulation* (2011), together with the ICM *Essential Competencies for Basic Midwifery Practice* (2011) and the ICM *Global Standards for Midwifery Education* (2011), provides a professional framework that can be used by midwifery associations, midwifery regulators, midwifery educators, and governments to strengthen the midwifery profession and raise the standard of midwifery practice in their jurisdictions. When midwives work within such a professional framework, they are supported and enabled to fulfill their role and to contribute fully to the delivery of maternal and newborn care in their country.

**PROCESS OF DEVELOPMENT**

The ICM Regulation Taskforce managed the development of the standards on behalf of ICM. The first draft of the standards drew on information obtained through a literature review and from regulation workshops held at the ICM Asia-Pacific region conference in India in November 2009 and at the ICM/United Nations Population Fund (UNFPA) South Asia midwifery meeting in Bangladesh in March 2010. It was evident that there was an urgent need for midwifery regulation in many countries, and that such regulation must support midwifery autonomy within the full scope of midwifery practice as defined by the ICM, protect the title
"midwife," support standardized midwifery education, and ensure continuing competence of midwives.

Consultation on the draft standards comprised both written feedback and focus group discussion. Questionnaires were sent to every ICM member association who were also asked to send the questionnaires on to the relevant regulatory authority or agency responsible for regulation in the particular country. Questionnaires were circulated twice during 2010, and responses were received from 34% of member associations from countries in each of the four ICM regions. Responses were also received from 10 regulators and 13 individuals across all regions. In addition, members of the taskforce facilitated focus group discussions on the draft standards with groups of regulators from Europe, Canada, South East Asia, and the Western Pacific. Although there was a very high level of agreement with the draft standards, amendments were made in line with feedback. The ICM Global Standards for Midwifery Regulation (2011) document includes the purpose of regulation, founding values and principles, principles of good regulation, a glossary of terms, the intended use of the standards, and the global standards for midwifery regulation with an accompanying explanation for each standard.

FOUNDING VALUES AND PRINCIPLES

The founding values and principles on which these standards have been developed were derived from ICM core documents and recognized that:

- Regulation is a mechanism by which the social contract between the midwifery profession and society is expressed. Society grants the midwifery profession authority and autonomy to regulate itself. In return, society expects the midwifery profession to act responsibly, ensure high standards of midwifery care, and maintain the trust of the public (Cruess, Cruess and Johnston, 2000; Donabedian, 1976).
- Each woman has the right to receive care in childbirth from an educated and competent midwife authorized to practice midwifery.
- Midwives are autonomous practitioners; that is, they practice in their own right and are responsible and accountable for their own clinical decision making.
- The midwife's scope of practice describes the circumstances in which the midwife may make autonomous clinical decisions and in what circumstances the midwife must practice in collaboration with other health professionals such as doctors.
- Midwifery is a profession that is autonomous, separate, and distinct from nursing and medicine. What sets midwives apart from nurses and doctors is that only midwives can exercise the full scope of midwifery practice and provide all the competencies within this scope.
- Wherever a registered, licensed, or qualified midwife works with pregnant women during the childbearing continuum, no matter what the setting, she is practicing midwifery. Therefore, when a midwife holds dual registration or qualification as a nurse, she cannot practice simultaneously as a midwife and a nurse. In a maternity setting, a registered, licensed, or qualified midwife always practices midwifery.

PURPOSE OF REGULATION STANDARDS

The purpose of these standards is to describe the regulatory framework necessary for effective midwifery regulation. The framework defines the elements of regulation in order to:

- Determine who may use the title of midwife;
- Describe the scope of practice of a midwife consistent with the ICM definition of a midwife;
- Ensure that midwives enter the register following education consistent with the ICM Global Standards for Midwifery Education (2011);
- Ensure that midwives enter the register able to demonstrate the ICM Essential Competencies for Basic Midwifery Practice (2011);
- Ensure that midwives are able to practice autonomously within their prescribed scope of practice;
- Ensure that midwives demonstrate continuing competence to practice;
- Ensure that midwives and women (as users of midwifery services) are part of the governance of midwifery regulatory bodies; and
- Ensure public safety through the provision of a competent and autonomous midwifery workforce.

1 In these standards, use of the feminine gender includes the masculine.
2 It is acknowledged that midwives share some skills with other health professionals but it is the entire suite of skills focused around the needs of childbearing women that define midwives and midwifery.
3 The definition of standard used in this document is "a norm/uniform reference point that describes the required level of achievement (performance)."
The standards set out the six main functions of a regulatory authority as follows:

1. Setting the scope of midwifery practice
2. Setting the requirements for preregistration midwifery education
3. Managing registration or licensure of midwives
4. Managing the relicensure and continuing competence of midwives
5. Investigating complaints and implementing discipline of midwives
6. Setting codes of conduct and ethics for midwives

Each standard is accompanied by an explanation to assist with implementation in a midwifery context. It is expected that a toolkit for implementation will be developed in 2012.

The Global Standards for Midwifery Regulation (2011) are deliberately generic and take a principle approach to midwifery regulation. These standards provide a benchmark for global standardization of midwifery regulation. They have two purposes. First, they provide the basis for review of existing regulatory frameworks. Second, they provide guidance and direction to countries seeking to establish regulatory frameworks for midwifery where none currently exists.

Because the ICM is the only international organization that represents midwives, it is important that the ICM sets standards that support midwives to practice within the ICM definition and scope of practice of a midwife and enhance high-quality midwifery care. Therefore, the ICM Global Standards for Midwifery Regulation (2011) do not merely reflect existing midwifery regulatory frameworks commonly found in many developed countries. Rather, these standards are high-level standards that set an ideal regulatory direction to underpin and enable autonomous midwifery practice.

It is anticipated that some countries with well-developed specific midwifery regulation frameworks will be able to use these standards as a benchmark. However, it is understood that this will not be the case for many countries. Those countries where existing midwifery regulation is closely linked with nursing or medicine or where regulation is managed by government may identify many differences between these standards and their existing regulatory frameworks and processes. The standards can provide a benchmark against which to assess existing legislation and regulatory processes. Midwives, through their midwifery associations, are encouraged to use the standards as a tool for lobbying for change.

The ICM Global Standards for Midwifery Regulation (2011) can guide amendments to existing legislation and promote changes that strengthen regulatory frameworks to support autonomous midwifery practice. For example, where midwives are regulated alongside or together with nurses or other health professionals, it is essential that separate and specific regulatory structures and processes are established to enable autonomous midwifery practice and ensure high-quality midwifery care for mothers and newborns. As a step toward midwifery-specific regulation, the separate professional identity of midwives must be recognized in any regulatory processes. Midwives are encouraged to seek opportunities to strengthen midwifery regulation and to work collaboratively with governments, regulators, and policy makers to develop a plan and period for implementing these global standards.

In those countries where limited or no regulatory processes exist, these standards can guide the development of new midwifery regulation. Legislation, policies, and procedures can be based on these standards to develop regulatory frameworks for midwives. In such countries, midwives can work collaboratively with governments, regulators, and policy makers to develop a plan and period for implementing these global standards.

Sally Pairman, Co-Chair, ICM Regulation Taskforce
Louise Silverton, Co-Chair, ICM Regulation Taskforce

REFERENCES


Prevalence of and Risk Factors for Urinary Incontinence During the Third Trimester and First Postpartum Year in Primiparous Women

Linda Birch and P. M. Doyle

OBJECTIVES: To identify the prevalence of and risk factors for urinary incontinence (UI) during the antenatal period and postpartum year in primiparous women.

DESIGN: A longitudinal, prospective, repeated measures and cohort study.

SETTING: Wirral University Teaching Hospital NHS Foundation Trust.

PARTICIPANTS: Primiparous women with no preexisting disease (N = 516) recruited after a normal 20-week obstetric ultrasound scan.

METHOD: Data were collected in the last trimester of pregnancy and at 6 weeks, at 6 months, and at 1 year postpartum using validated questionnaires. Obstetric data were extracted from case notes.

MAIN OUTCOME MEASURES: UI symptoms.

RESULTS: Stress incontinence during the third trimester was reported by 39.7% (n = 185) of the women participating in the study. At 6 weeks postpartum, 28.2% (n = 114); at 6 months postpartum, 31% (n = 123); and at 1 year postpartum, 26.5% (n = 89) of participants also reported stress incontinence.

Urge incontinence was reported by 23.5% (n = 110) of participants in the third trimester, 21.2% (n = 86) at 6 weeks postpartum, 21.4% (n = 85) at 6 months postpartum, and 16.4% (n = 55) at 1 year postpartum.

Women younger than 20 years old had higher rates of postpartum urge incontinence (p < .001) possibly associated with increased rates of infection. Body mass index (BMI) >30 was associated with higher rates of antenatal stress incontinence but was not significant in the postpartum period. BMI <20 was associated with an increase in postpartum urge incontinence. Prolonged periods in labor without bladder emptying was associated with increased rates of UI (odds ratio [OR] = 2.36). Forceps delivery was associated with postpartum stress incontinence (OR = 2.41). Although cesarean section appeared protective against UI initially, long-term data show a progressive increase in reported rates of UI even after elective cesarean section. Perineal trauma was associated with UI throughout the postpartum year with those women having anal sphincter disruption with the highest rates of stress incontinence (p < .005). Birth weight, duration of labor, feeding method, epidural anesthesia, and smoking were not significant. Overall, UI appears to be a regressive condition. Some participants had a progressive, deteriorating condition, which appears to be associated with a higher BMI or >6 hours from bladder emptying to delivery of the newborn.

CONCLUSION: There are several identifiable risk factors that increase the prevalence and/or severity of UI symptoms.

KEYWORDS: urinary incontinence; risk factors; postpartum incontinence; prevalence
INTRODUCTION AND BACKGROUND

LITERATURE

Pregnancy and childbirth are established risk factors for the development of urinary incontinence (UI). Antenatal incontinence is believed to be temporary and attributable to several factors, including an increase in glomerular filtration rate, hormonal changes, enlargement of the uterus, temporary changes in the urethrovaginal angle, and softening of ligaments and muscles secondary to the action of an increase in the levels of the hormone relaxin. UI that is experienced during pregnancy seems to become worse as the pregnancy progresses (Viktrup, 2002). Therefore, gestation of respondents can impact on the comparability of studies. Prevalence rates have been reported as low as 3.5% (van Brummen, Bruinse, van de Pol, Heintz, & van der Vaart, 2006b) and as high as 77% (Sampselle, DeLancey, & Ashton-Miller, 1996).

Incontinence that occurs during the initial few weeks postpartum is frequently transient and will often subside as hormonal and pressure effects resolve. During the first postpartum year, rates of UI range from 2.8% (Arya, Jackson, Myers, & Verma, 2001) to 77% (Sampselle et al., 1996). The period in which data are collected, and method of assessment and subjects included, can markedly impact on reported prevalence rates. In contrast to the antenatal period, persistent postpartum UI is usually due to pathophysiological changes that occur during labor and delivery. Trauma to the bladder, urethra, and supporting structures; denervation of the pelvic floor; and perineal muscle injury are thought to be directly linked to postpartum UI (DeLancey, 1994; Dietz & Lanzarone, 2005; Freeman, 2002).

Published studies that have evaluated anatomical and neurological aspects of pelvic floor function often assume that labor and delivery lead to pudendal nerve neuropathy. This assumption then leads to the assertion that a cesarean section will have a protective effect. Traumatic stretching and compression of the peripheral nerve supply of the pelvic floor that often occurs during pregnancy, labor, and delivery may result in partial denervation of the striated muscle in and around the urethra (Handa, Harris, & Ostergard, 1996). This can lead to urinary dysfunction and incontinence. During vaginal delivery, the endopelvic fascia and levator ani muscles may become traumatized. In addition, the nerve supply to the levator musculature (i.e., the pudendal nerve) can suffer stretch injury leading to denervation, which results in stress incontinence (Freeman, 2002).

Studies have identified risk factors for UI; however, the results are contradictory. A higher body mass index (BMI) was shown to increase the risk of developing UI ($p = .0001-.019$) in both pregnant and postpartum populations (Burgio et al., 2003; Pregazzi et al., 2002; Thomason, Miller, & DeLancey, 2007; Troiano, Pregazzi, Bortoli, & Madai, 2000).

Most obstetric studies exploring the relationship of age and UI find no association (Burgio et al., 2003; Kristiansson, Samuelsson, von Schoultz, & Svärdsudd, 2001; Ryhammer, Bek, & Laupen, 1995; Thomason et al., 2007). However, some studies that explored age as a continuous variable found that when age is categorized into incremental groups, women having their first child at age 21 years or younger and women who have their first child at age 35 years or older were more likely to develop UI, particularly stress incontinence (Fultz, Herzog, Raghunathan, Wallace, & Diokno, 1999; Grodstein, Fretts, Liford, Resnick, & Curhan, 2003; Thom, van den Feden, & Brown, 1997; Wilson, 2004). These findings may help to explain the nonsignificant results found in other studies in which age was a continuous variable.

Vaginal delivery is generally accepted as a risk factor for postpartum incontinence (Connelly, Litman, Tennstedt, Link, & McKinley, 2007; Wesnes, Hunskaar, Bo, & Rortveit, 2009). Studies have also identified an increase in reported levels of postpartum UI following instrumental delivery (Dolan et al., 2004; Farrell, Allen, & Baskett, 2001; MacArthur, Bick, & Keighley, 1997; Mellier & Delille, 1990; Tetzschner, Serensen, Jonsson, Lose, & Christiansen, 1997; Troiano et al., 2000; Viktrup, 2002; Viktrup & Løse, 2001; Wenderlein & Revermann, 1994; Zetterström et al., 1999) with forceps leading to more incontinence than vacuum extraction (Johnson et al., 1993), possibly because of the additional trauma to soft tissue associated with forceps usage.

Elective cesarean section has been shown to be partially protective against the development of postpartum UI (MacArthur et al., 2006; van Brummen, Bruinse, van de Pol, Heintz, & van der Vaart, 2006a; van Brummen, Bruinse, van de Pol, Heintz, & van der Vaart, 2007; Weidner et al., 2006). However, when a repeated measures approach is used to study the effect of cesarean section on the incidence of incontinence, research has found that prevalence increased during the postpartum year, and that at 1 year postpartum, the cesarean group had higher rates of urge UI than the vaginal delivery group (van Brummen et al., 2006a; van Brummen et al., 2007).

Studies have identified a relationship between postpartum stress urinary incontinence (SUI) and the total duration of labor (Cutner, 1993; Serati et al., 2008;
Wenderlein & Revermann, 1994), with persistent residual urine retention and urinary tract infection: both known to increase stress incontinence. SUI is also found to be more common when labor duration was longer than 12 hours or the second stage of labor lasted longer than 1 hour (Wenderlein & Revermann, 1994). Postpartum urinary retention was more common when labor lasted more than 700 minutes (Kekre, Vijayanand, Dasgupta, & Kekre, 2011). However, these findings are disputed by others who found no correlation when symptoms were assessed using urodynamic parameters (Tetzschner et al., 1997; van Geelen, Lemmens, Eskes, & Martin, 1982).

Some controversy remains concerning the contribution of fetal weight and head circumference to the development of postpartum incontinence. However, two studies looking specifically at first-time mothers do suggest that there is a link between increased fetal size and postpartum incontinence (Allen, Hosker, Smith, & Whorrell, 1990; Viktrup & Lese, 2001).

In summary, the current literature suggests that an elevated BMI, age, fetal weight, and instrumental delivery are risk factors for the development of postpartum UI in primiparous women. Other risk factors such as labor duration, length of second stage of labor, and genital tract trauma remain controversial.

RESEARCH METHOD

This longitudinal prospective study took place over 2 years. Data from primiparous patients were collected at four points: during the third trimester of pregnancy, at 6 weeks postpartum, at 6 months postpartum, and at 1 year postpartum. The King's Health Incontinence Questionnaire was used (Kelleher, Cardozo, Khullar, & Salvatore, 1997). This is a validated tool used to assess UI and its impact on quality of life. It explores perception of general health and the perceived impact of incontinence on aspects of life. A symptom index that asks respondents to indicate how much they are affected by the incontinence on a 3-point scale (a little, moderately, a lot) is also included. The remaining items explore the impact of UI on quality of life. A severity score is determined using questions that explore embarrassment and behavior undertaken to address the continence problem, such as wearing pads and alteration to diet. The same questionnaire was given to study participants on four occasions over a period of 18 months, making it possible to determine if incontinence was perceived to be either progressive (getting worse) or regressive (getting better).

To reduce obstetric and social variables, women who had no previous children and no medical conditions that may predispose them to continence problems were recruited for the study. Some physical and social characteristics such as history of urinary problems, medical conditions affecting bladder or bowel function, perception of severity of any bladder problems, breast- or bottle-feeding, maternal weight, and smoking were obtained using self-report questions that were added to the King's Health Questionnaire.

Intrapartum and delivery data were obtained from maternity case notes. To improve accuracy and detail of the information gathered, each handwritten account of delivery information was examined in detail and was cross-referenced with observation charts, fluid balance charts, the departmental labor ward register, computer records, and the neonatal case notes. Data from surveys that were significantly incomplete were excluded from the study.

STATISTICAL ANALYSIS

The various statistical tests used to determine the significance of the findings were applied using the Statistical Package for Social Science (SPSS version 13.0 and version 14.0). Nonparametric tests were used to analyze the data that did not meet the assumptions for parametric testing. Nonparametric tests were used to analyze variables such as a history of urinary problems, medical conditions affecting bladder or bowel function, perception of severity of any bladder problems, breast- or bottle-feeding, maternal weight, and smoking.

RESULTS

Following exclusions due to severe maternal or fetal illness, 1,023 women were recruited to participate in the study. A total of 862 women agreed to participate in the study. Of these, 466 (54%) completed the antenatal questionnaire. Of the 54% of participants completing the antenatal survey, 12.6% (n = 109) were lost to follow up and did not complete any of the postpartum questionnaires. Antenatal data collected from all of the participants were included in the analysis.

A total of 516 of the 862 women recruited (59.9%) returned at least two of the three postpartum questionnaires and had comprehensive data completion in their maternity records. Data from these women's surveys are included in the analysis of postpartum data. Data from
women who returned only one postpartum questionnaire (n = 237, 27.5%) were excluded from analysis. Of the 516 postpartum data sets analyzed, 404 (78.3%) women completed the questionnaire at 6 weeks postpartum, 397 (76.9%) completed the 6 months postpartum questionnaire, and 336 (65.1%) completed the 1 year postpartum questionnaire.

Symptom Prevalence and Severity

Figure 1 illustrates the trends in urinary symptoms reported for each of the time intervals in the study. During the antenatal period, 82.6% (n = 385) of respondents experienced various UI symptoms with varying degrees of severity. Nocturia and urinary frequency were the most commonly reported symptoms. This was expected because both often occur during the antenatal period.

At 1 year postpartum, 38% (n = 128) of the women indicated that they had various urinary symptoms with stress incontinence being the most commonly reported symptom. In total, 11% (n = 37) of women completing the questionnaire at 1 year reported new onset of UI. New onset urge incontinence was reported by 3.9% (n = 13), new onset stress incontinence by 4.5% (n = 15), and new onset of both urge and stress incontinence by 2.7% (n = 9). Again, many women reporting new symptoms perceived their condition to be the same or better than before. This contradicts the findings from previous UI studies in which there was no correlation found between antenatal and postpartum symptoms (Diez-Itza et al., 2010; Thomason et al., 2007; Wesnes et al., 2009).

The number of participants reporting any UI symptoms was significantly higher antenatally ($\chi^2 = 67.280, p < .005$) and lower at 1 year ($\chi^2 = 40.5, p < .005$). Using Friedman's analysis of variance (ANOVA) test, the UI severity scores for each subject were compared with the three postpartum time intervals. Significant differences were found indicating a steady decrease in severity scores over the year ($\chi^2 = 21.369 \ [2], p < .005$), suggesting that postpartum symptoms are generally regressive, rather than progressive. Some of the respondents had increasing severity scores over time ($n = 41, 13.3\%$), suggesting that their condition was perceived to be getting worse. A severity score was derived from alterations to behavior such as the need to wear incontinence pads or to alter diet in an attempt to control the incontinence. Risk factors associated with this finding are discussed next.

Risk Factors

Age
The relationship between age and incontinence was explored using logistic regression and Pearson's correlation. Analysis was conducted for stress incontinence, urge incontinence, and "any" incontinence at each time interval.

Figure 1 Trends in reported urinary symptoms.
Age, when explored as a continuous variable, did not significantly correlate with reported stress incontinence. Further analysis was conducted to reexamine incremental age categories and urge incontinence (Figure 2). Statistical significance was not demonstrated for the antenatal results. However, the reported rate of urge incontinence was significantly associated with the age group of younger than 20 years and continued to be observed throughout the postpartum period ($H[4] = 18.454; p = .001$, 99% confidence interval [CI] .000-.001). Long-term (1 year) rates of urge incontinence were significantly lower in the age group of older than 35 years than in the age group of younger than 20 years ($U = 380$, $r = -0.33$, $p = .004$).

At 1 year postpartum, the urge incontinence group had a statistically significant lower age (mean 24.92) than the group who did not report urge incontinence (mean 28.14; $p < .001$). Stress incontinence was not significantly associated with mean age ($p = .34$).

The relationship between UI severity scores and age suggested that the younger participants were experiencing greater incontinence severity scores. A Bonferroni correction was applied, and all effects are reported at a .0125 level of significance. It appeared that the severity scores in the age group of younger than 20 years were significantly higher than any other age group ($U = 2,018$, $r = -0.36$). Trend analysis revealed a significant trend in the data: Lower age groups had higher median severity scores ($J = 26,107$, $Z = -3.216$, $r = -0.36$), suggesting that the impact of the condition in terms of embarrassment and behavior modification was greater in younger participants.

**Body Mass Index**

Data from the group reporting any incontinence at 1 year were compared with the continent group. Statistical significance was not demonstrated for the antenatal results. However, reported rate of urge incontinence was significantly associated with the group with less than 20 BMI at 6 weeks ($H[5] = 30.580; p < .001$, 99% CI .000-.000). Results remained statistically significant throughout the postpartum year. The higher BMI group had significantly higher reported rates of urge incontinence at 6 weeks postpartum ($U = 549$, $r = -0.26$, $p = .005$). However, by 6 months, the difference no longer reached statistical significance. The relationship between UI severity scores and BMI showed no statistically significant correlation at any of the times investigated.

**Bladder Emptying in Labor**

The pattern and frequency of bladder emptying in labor, either by spontaneous voiding or by catheterization, was compared with both the continent and
incontinent groups. Those respondents who did not have their bladder emptied for more than 4 hours prior to the start of the second stage of labor, were 1.94 times more likely to report "any" UI ($\chi^2 = 5.202, 1 df, p = .023$, Cramer's $V = .154$) and 2.36 times more likely to report stress incontinence at 1 year postpartum ($\chi^2 = 10.663, 1 df, p = .001$, Cramer's $V = .221$).

**Mode of Delivery**

Mode of delivery was not significantly associated with urge incontinence. Stress incontinence on the other hand, was significantly associated with mode of delivery ($\chi^2[4] = 10.575, p = .031$, Cramer's $V = .171$), as illustrated in Figure 3, with those undergoing delivery by forceps reporting higher rates of stress incontinence. Results remain significant at 1 year postpartum. Cervical dilatation at the time of emergency cesarean was not a significant factor. The odds ratio for developing stress incontinence for specific modes of delivery, compared with a normal vaginal delivery is presented in Figure 4.

**Perineal Trauma**

Urge incontinence was not significantly associated with perineal trauma; however, stress incontinence was, with those experiencing anal sphincter disruption most likely to experience postpartum stress incontinence. Results were statistically significant throughout the postpartum year (1 year results: $\chi^2[4] = 12.156, p = .016$, Cramer's $V = .197$).

**Other Risk Factors**

Birth weight, duration of labor, feeding method, epidural anesthesia, type of forceps used, and smoking were not significant risk factors for UI.

**Postpartum Urinary Incontinence: A Progressive or a Regressive Condition?**

In the vast majority of women, based on condition perception and severity measures used, UI symptoms improved over time, suggesting that postpartum UI is a regressive condition. However, some respondents did have new onset of symptoms and increasing postpartum severity scores ($n = 41, 13.3\%$) suggesting that the impact of their condition was getting worse leading to more embarrassment, pad wearing, and dietary alteration. Further analysis of this cohort showed a statistically significant positive correlation between severity score and time interval from bladder emptying to delivery. Particularly, those participants who had not had their bladder emptied for 6 hours or more prior to delivery of the newborn ($r = 0.46, p = .021$). In addition, there was a statistically significant positive correlation between severity score and BMI ($r = 0.379, p = .017$) within this

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**FIGURE 3** Reported rates of stress incontinence for each mode of delivery.
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FIGURE 4 Odds ratio for stress incontinence at 1 year and mode of delivery.

cohort, indicating that high BMI and delay in bladder emptying in labor can lead to progressive, deteriorating postpartum UI.

DISCUSSION

Although several studies have reported the rates of UI, there has been little published studies regarding symptomology. This study provides detailed data on symptomology during the antenatal period and the first postpartum year.

It is unclear if the number of women reporting new onset stress incontinence during the postpartum year represents true new onset or if the perception of the individual has influenced their response. Many stated that their bladder problem was actually the same or better than before. This suggests that the perception of incontinence changed, rather than a true new onset of symptoms occurring. However, new onset urge incontinence was often accompanied by a perception that the condition was getting worse, possibly indicating a true new onset of symptoms. This concept has not been fully explored in published literature to date, and further research is required to explore this phenomenon in greater detail. The authors suggest that such studies incorporate a combination of urodynamic assessment and patient interview to give a comprehensive comparison.

The cohort of women who reported a progressive deterioration in their condition has been identified. The most commonly reported symptoms in this group were pain, intercourse incontinence, and nocturnal enuresis. Cohort studies of this group have not been previously published, and further exploration including urodynamic assessment is required to identify the physiological processes involved; to establish if obesity per se contributes to behavior, dietary, and psychological changes; or to interpret results in a true deterioration in UI symptoms.

Urge incontinence and severity rates were significantly higher at all three postpartum time intervals, with 20 years or younger explaining 10.8996 of the variance in reported urge incontinence. This association between younger age groups and higher rates of urge incontinence has not previously been reported in published research. The explanation for this finding is unclear. One possible contributing factor could be bladder and urethral sensitivity due to infection. Overall rates of reported frequent urinary infection during the postpartum period were in the region of 10%. Among the age group of younger than 20 years, at 1 year postpartum,
the rates of frequent urinary infection (17.9%) and bladder pain (25%) were considerably higher. Urge incontinence was significantly associated with frequent infection \( r = 0.397, p < .001 \), explaining 15.76% of the variance. It is possible that the frequent infections led to a hypersensitive state in the bladder or a predisposition to involuntary detrusor contraction, resulting in urge incontinence. What is not clear is why the age group of younger than 20 years had more urine infections compared with all other age groups \( (\chi^2 = 17.18, 4 \text{ df}, p = .002, \text{Cramer's V} = .234) \). A possible explanation is a difference in behavior within this group, which may predispose to more urinary tract infection, for example, an increase in sexual activity.

Urine incontinence was associated with lower BMI groups. Specifically, BMI less than 20 had the highest rates of urge incontinence throughout the postpartum year. One previous study has linked anorexia nervosa to UI, particularly urge incontinence (Boos et al., 1999), with 24% of women with anorexia reporting urge incontinence; however, there is very little published about this phenomenon. Boos et al. (1999) believed that this may have been associated with reduced estrogen production. It is possible that some of the respondents in the BMI less than 20 category were experiencing reduced estrogen production postpartum, which had an adverse effect on their urinary systems. However, although breast-feeding can also reduce estrogen production, incontinence was not associated with feeding method.

Findings from this research support a link between failure to void in labor and an increased risk of postpartum UI. No previous studies have recorded bladder emptying in labor. These results show the impact that bladder care can have, not only on the development of postpartum incontinence, but also on the long-term progression of the condition. The physiological explanation for this correlation is not clear. It could be related to defective urethral sphincter closure as a consequence of bladder compression and neurophysiological compromise.

The greatest risk of developing postpartum UI appears to be from a forceps delivery and is likely due to trauma to the pelvic floor from the forceps. These findings are generally concurrent with previous studies. Consideration needs to be given to the reason for forceps usage in addition to the effect of forceps. However, ventouse extraction is generally used for the same clinical reason as forceps delivery, and this effect was not noted in the ventouse group, suggesting that it is a factor related to the forceps themselves that increases dystocia and other obstetric factors may be. Consequently, muscular and neuropathic damage may still have occurred if the delivery had been progress without intervention.

Findings from this research support the identified by van Brummen et al. (2007) that although elective cesarean may protect against stress incontinence, over protection is reduced. By 1 year postpartum was higher than that of the previously report liparons women suggesting that pregnancy ; a prolonged adverse impact on the urinary tract. The explanation for progressive increase in over time is not clear. Number-needed-to-treat indicates that seven cesarean sections would be performed to prevent one case of UI. The not seem to justify advocating elective cesarean. One possible explanation is that the levator ani suffers neurological damage during pregnancy, denervated muscles would then undergo atrophy at the endopelvic fascia would be solely responsible for supporting the pelvic organs. Over a period, prostate gland would gradually stretch, leading to pelvic organ prolapse and stress incontinence (Asht Howard, & DeLancey, 2001). Another possibility is that those having a cesarean were who had a higher BMI, thus falling into the g reported a deterioration of their symptoms. Further analysis using one-way ANOVA revealed BMI in the cesarean group (mean = 26.53) was significantly higher than that in the vaginal group (mean = 24.96, \( p = .003 \)), adding evidence linking an elevated BMI with a prolonged adverse impact on urinary dysfunction, independent of delivery.

Although previous research has identified and fourth degree tears as a risk for anal incision, this study found very high rates of stress incontinence in this group. Almost all women in this category had persistent long-term stress incontinence a

CONCLUSION AND RECOMMENDATIONS FOR FURTHER RESEARCH

This research is one of the largest to explore the prevalence rates of incontinence. A key strength of this research is the design. This prospective, lon
pregnancy and after delivery. The correlations of symptoms over time provide increased validation for the results. In addition, as the study was prospective and data was collected at specific time intervals, recall bias is less likely that it may be with a retrospective design. Symptoms were assessed using standardized, validated questionnaires. This allowed data to be analyzed in several ways: item by item, clustered subscales, comparison of groups, and repeated measures over time.

The research design does have some limitations. Urinary symptoms were not confirmed by urodynamic investigation but were a perception of the respondent. The aim of the study was not to measure objectively the urinary symptoms but to ascertain the woman’s experience and perception of symptoms. Studies combining patient perception and a degree of urodynamic assessment would provide data to enable a comparison to be made between scientific findings and the patient’s perception of their condition. From this, those factors which may influence the patient’s cognitive and behavioral response to their incontinence may be identified.

Urodynamic assessment or 24-hour pad tests throughout the postpartum period could be required to determine if the apparent high number of “new onset” incontinence was actually a true finding or a reflection of individual perception and symptom tolerance. Although this would give some scientific basis to the symptomology, it may not explain the patient’s perception of their condition.

The large percentage of women who had an elective cesarean section and developed UI at 1 year suggests that factors other than those associated with labor and delivery may be contributing to a progressive increase in symptoms. Further research into possible hormonal, physiological, or neurological risk factors needs to be conducted before conclusions can be drawn.

The newly reported phenomenon of bladder emptying in labor, being a critical factor in the development of postpartum UI, requires further investigation. There are no comparative data currently available, and given the clinical significance of this finding, further study is essential.

A cohort of women with apparent progressive deterioration of their condition has been identified. Further research incorporating long-term follow-up of this group could identify if this observation originates from physical, psychological, or multifactorial background.

Younger women experienced higher levels of urge incontinence, possibly because of increased infection. A simple research study to identify sexual behavior and urinary infection rates in this group could explain this finding.

Those women with a low BMI experienced high rates of urge incontinence. Further studies in this phenomenon are indicated. Such work could combine collagen and hormonal examination, together with social and psychological qualitative research.

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Correspondence regarding this article should be directed to Linda Birch, RGN RM BSc Hons, MA, PG Cert, PhD, Women and Children’s Division, Wirral University Teaching Hospital, Arrowe Park Rd, Upton Wirral CH49 5PE, United Kingdom.

E-mail: lindabirch@nhs.net

Linda Birch, RGN RM BSc Hons, MA, PG Cert, PhD, Women and Children’s Division, Wirral University Teaching Hospital, United Kingdom.

P. M. Doyle, MB, BS, BSc, FRCOG, Women and Children’s Division, Wirral University Teaching Hospital, United Kingdom.
An Observational Study to Explore the Power and Effect of the Labor Ward Culture on Consent to Intrapartum Procedures

Jayne E. Marshall, Diane M. Fraser, and Philip N. Baker

AIM: To explore the concept of informed consent to intrapartum procedures within a hospital labor ward.

DESIGN: An ethnographic study using participant observation and follow-up semistructured interviews with women and the attending midwives. Data analysis used principles of grounded theory assisted by the computer-assisted qualitative data analysis software (CAQDAS) package, Non-numerical Unstructured Data Indexing, Searching, and Theorizing (NUD*IST). The study was approved by the Local Research Ethics Committee.

PARTICIPANTS AND SETTING: 100 healthy English-speaking women in spontaneous labor who were to give birth within the labor ward of a large teaching hospital in England and the attending health professionals.

FINDINGS:
- The fragmented Western technocratic model of childbirth affected gaining informed consent to intrapartum procedures within the labor ward environment.
- Midwives and women adopted certain stereotypical roles relating to how information was given and decisions made about intrapartum procedures.
- Not all women wanted to be fully informed about intrapartum care and procedures and trusted the midwife or doctor to make decisions, especially concerning the health of their newborn.
- Where a birth plan had been completed, women felt valued and enabled by having contributed to decisions made about their care.

CONCLUSIONS: The study revealed that true choices to childbearing women were limited and informed consent was rarely obtained. Further exploration is required to establish the optimal timing of information disclosure to gain consent to intrapartum practices prior to the onset of labor, because during labor is not ideal. The 2 typologies may be used by midwives to examine how the culture of the birthing environment can affect women's choice and the obtaining of informed consent to intrapartum procedures, especially where care is fragmented. Until birth is viewed through a holistic birthing model, health professionals will continue to control the birth experience. However, what is provided in practice should be congruent with the needs and expectations of childbearing women.

KEYWORDS: ethnography; labor ward environment; informed consent; models of childbirth; participant observation; stereotypes
INTRODUCTION

It is acknowledged that there are fundamental differences between the two concepts: informed choice and informed consent within the setting of health care/maternity care. In practice, factors that influence one concept may subsequently affect the other as the seeking and giving of informed consent involves the individual making pertinent choices.

The works of De Vries, Benoit, van Teijlingen, and Wrede (2001), Davis-Floyd and Sargent (1997), and Jordan (1993) demonstrate that globally, the concept of informed choice is constructed through social norms, belief systems, and available resources to which the central figure (the individual client/patient) is exposed. In the context of maternity care, this involves the childbearing woman using relevant information about the advantages and disadvantages of all the possible maternity care and childbirth options that are actually available to make a reasoned decision in accord with her own personal beliefs and cultural norms. Edwards (2004) argued that in some cultures, home birth would be an almost impossible choice to make, whereas in others to consider an alternative would be just as unlikely. In reality, there may not only be resource implications to offer all women a full range of childbirth options, but as Kirkham (2000) stated, if women are not used to considering the options and making decisions in their daily lives, it becomes even more difficult for midwives to enable them to do so in labor. Leap (2000) has also found that there are many situations in which no amount of information will clarify the decision process for these women and consequently they rely on the judgment of the health professional.

Historically, the relationship between the health professional and the client has been based on the claim to legitimate authority. As a result, individuals are known to obey doctor's orders or take professional advice simply because of this acceptance of authority based on expertise, experience, and superior knowledge. This further extended to doctor-nurse power relations that manifested over time in the hospital setting (Porter, 1991; Stein, 1967; Stein, Watts, & Howell, 1990). Most midwives who were educated and trained in the last century had also undertaken nurse training where compliance and obedience to the doctor was the norm, with the doctor having total responsibility for making management decisions of his patients (Siddiqui, 1996). Marshall (2005) believes that this power relation between the two groups of health professionals had a consequential effect on decision making in midwifery practice, causing some midwives to feel disempowered in their role. This in turn, can affect their ability to enable women to exercise choice and control in childbirth and give informed consent (Thachuk, 2007).

Informed consent involves an individual being given sufficient information to make a decision to accept or refuse what an expert has offered, such as a procedure, investigation, or a course of treatment (British Medical Association [BMA], 2003; Department of Health [DH], 2001, 2005, 2009; General Medical Council [GMC], 2001, 2008; Medical Defense Union [MDU], 2009; Nursing and Midwifery Council [NMC], 2008; Royal College of Obstetricians and Gynaecologists [RCOG], 2008). Within the health care setting, the concept has foundations in illness where consent relates to medically defined procedures and treatment, resulting in the implementation of a medical model of care, with the dominant figure being the health professional. Applying this to maternity care provision, Kirkham (2004) emphasized that informed consent disregards childbirth as a natural process because it fails to consider alternative options that may be chosen by childbearing women. Early on in pregnancy, women in Western cultures are subjected to a medically endorsed screening package to which they are expected to give their consent. The concepts of diagnosis and treatment become routine with all the implications of professional power (Kirkham, 2004). Women are then expected to make childbirth choices from a predetermined, medically oriented list over which they have limited control to define or change (Brown & Press, 1997; Cartwright & Thomas, 2001; Lazarus, 1997). Within the hospital setting, it is well documented that during intrapartum care, women accept what is done to them without challenging midwives and doctors, and in turn, the health professional accepts this as consent to proceed (Bergstrom, Roberts, Skillman, & Seidel, 1992; Coldicott, Pope, & Roberts, 2003; Kirkham, 1987; Lewin, Fearon, Hemmings, & Johnson, 2005; Menage, 1993). It has been argued that the complex concepts of choice and control are essentially middle class notions that may not be relevant to most working class and less-educated women (Green, Coupland, & Kitzinger, 1998; Lazarus, 1997). However, Davis-Floyd and Sargent (1997) purported that in cultures where a holistic, social birthing model is apparent, authoritative knowledge is given to the woman regardless of social class, compared to a technocratic model where knowledge is invested in its experts and machines as is common among Western cultures. Furthermore, Leap and Edwards (2006) professed that power has to be taken and cannot be given, such that health professionals can only enable situations in which women are able to feel more powerful and in control.
The increasing use of the Internet as a means for the public to access information about their health care/maternity care and treatment options was substantiated in the Darzi Report (DH, 2008) predicting that by 2012, 74% of homes in the United Kingdom (UK) will have such access. Henley-Finion (2003), however, argued that advances in media and information technologies have reinforced birth as a medical event, dramatizing and popularizing birth within the hospital setting. Women consequently have become conditioned into expecting similar interventions during their own labor, such as epidural analgesia and cesarean births, to which they readily consent. In direct contrast, the low impact that home birth has within the media reinforces it as a rare, unsafe alternative.

Regardless of the woman's personal beliefs and opinions concerning childbirth choices prior to labor, Green et al. (1998) and Machin and Scamell (1997) suggested that medicalization is usually irresistible once women enter a technocratic environment. Leap and Edwards (2006) raised the issue that technocratic meanings and interpretations of risk and safety dominate birth practices and procedures and may constrain women's and midwives' autonomy and decision making. The obstetric definition of safety and risk indicates that while minor choices exist, conceptual choices cannot. This may involve the woman being coerced into giving her consent to procedures as ultimately she is motivated to do the best for her newborn. On the other hand, Sookhoo (2003) affirmed that when conformity is not perceived, such as the woman wanting a home birth, the pattern of behaviors or attitudes is interpreted as deviation from the accepted norms.

Leap and Edwards (2006) acknowledged that women's views of safety are often broader than those promoted within the technocratic model of birth. For some women who may have experienced previous birth trauma or sexual abuse, the risk to personal integrity will influence their discussions about risk and safety. As a result, these women may plan a cesarean birth or choose a home birth with a known and trusted midwife. Continuity of care that occurs in community settings enables the building of mutual trust between a woman and her midwife, but in Western countries, it is the ideal rather than being the dominant model of care (Edwards, 2000; Leap, 2000; Wilkins, 2000). In remote indigenous communities in countries such as Australia and Canada, it is known that women often feel much safer giving birth according to their customary law, surrounded by women they know who speak their language rather than being removed from their communities to give birth in hospital (Kaufert & O'Neill, 1993; Kildea & Wardaguga, 2009).

Being in a hospital inspires very different behavioral responses to those that occur when an individual is in their own home. It is expected that the woman and her partner, regardless of their own cultural and ethnic norms, comply with and conform to the hospital rules and standards of behavior, communicate using the same codes and language, and respect and value the technology surrounding them. In such a way, the hospital is seen as a socializing agent (Davis-Floyd, 1990; Machin & Scamell, 1997). Such a technocratic environment with unknown carers can render women to feel frightened and powerless to choose anything other than the choices available. This loss of control can ultimately interfere with the normal physiological processes of labor (Steele, 1995).

Although it may be assumed that giving birth in their own home enables women to be more autonomous, the assumption that venue alone impacts on decision making is flawed. Banks (2000) reported of women being made to comply with the wishes of the midwife during a home birth as interventions can just as well take place in the woman's home. Accepting that the birthing environment will inevitably have some impact on both practice and ideology, Leap and Edwards (2006) endorsed that the overall goal is to enable women to make decisions that make them feel powerful wherever they are and with whoever attends them when they give birth.

Levy (1999) described the concept of protective steering when observing midwives facilitating informed choices during pregnancy. Midwives tried to strike a balance between providing sufficient information for the woman to make choices without disclosing too much information and frightening her or appearing unbiased in their advice. When engaged in protective steering, midwives retained control of the situation as they determined the extent of information disclosed to the woman and how this was subsequently used (Levy, 1999). During her exploration of the effectiveness of the labor ward as a learning environment for students, Fraser (2002) observed similarities with Levy's (1999) work in that some midwives explained birth options in such a persuasive way that the woman was likely to choose the midwife's preferred option.

In Stapleton, Kirkham, and Thomas' (2002) observational study of the use of Informed Choice leaflets throughout maternity care settings in Wales, it was found that choice and decision making was restricted
by the pressures and norms of the local obstetric culture. Hierarchical structures in the maternity services also affected the extent that lower ranking practitioners were able to support women in going against these "right" choices. As a result, Stapleton et al. (2002) found that this type of culture ensured informed compliance rather than informed choice. McCourt (2006) found similarities in her study when antenatal booking visits were undertaken in hospital clinics where a fragmented conventional model of care was practised. Midwives appeared to adopt a professional/client model of interaction and experienced considerable dissonance between their own ideals and their practice, often feeling stuck in the middle between the woman and the hospital. In contrast, where visits were undertaken in the woman's home or a general practitioner (GP) clinic as part of a caseload model, the interactions between midwife and woman reflected a partnership model. This model was less hierarchical, more conversational, and served in offering women greater information, choice, and control, regardless of their social class (McCourt, 2006).

Although there is a substantial amount of research data regarding communication during childbirth, data relating to the observation of informed choice procedures and the effect that the culture of the labor ward has specifically on intrapartum informed consent are limited. Such discoveries therefore substantiated the rationale to undertake this study.

The Labor Ward in Context

The study was undertaken on the labor ward of a maternity unit within one of two teaching hospitals for midwifery, medical, and nursing students in an East Midlands city in England. Most women in this area give birth in either of the two maternity units with only 2% of births taking place in the home. At the time of the study, a total of 5,699 women gave birth at the study hospital. A small proportion of these births (8.4% or 494) were to women of minority ethnic origin. The labor ward is purpose built and comprises 17 rooms, a birthing pool, an obstetric operating theatre, and specialist neonatal intensive care facilities. Although midwives care for all women during their labor and birth, the model of care adopted is predominantly that of a fragmented technocratic model as is typical of most U.K. hospital labor wards. Separate teams of community midwives undertake antenatal care that include facilitating Preparation for Parenthood classes, which are mainly for primigravidae, and postnatal care. The role of the obstetrician focuses on women who either present in labor with a known risk or develop a complication during labor. There are policies and procedures in place for the safety of childbearing women and their newborns, but these do not distinguish between low- and high-risk pregnancies. At the time of the study, there were no formally recognized midwife-led care practices in place.

METHODOLOGY

An ethnographic approach seemed appropriate to explore the complexity of the culture of the labor ward environment and the effect it had on the interactions between the different players in the gaining of informed consent. Ethnography seeks to obtain a holistic view of individuals in their natural, physical, and sociocultural environment to make some sense of their behavior and interactions within that setting so as to uncover its rules, values, and norms (Hammersley & Atkinson, 2007). As a midwife lecturer, previous personal experience of working on similar labor wards had provided a degree of emic (insider) insight into labor ward culture, although it was acknowledged that cultures evolve and may vary from one labor ward to another. Obtaining women's and midwives' perspectives on the intrapartum events and having no personal experience of working on the labor ward in the study facilitated an etic (outsider) perspective on data collection and analysis. To ensure the final account was authentic, trustworthy, and of good quality, it was important to be reflexive. This meant being aware of how the researcher's presence, social background, personality, personal assumptions, and being a midwife lecturer could impact on the research process (Marshall, Fraser, & Baker, 2010).

The study was based on Kirkham's (1987) seminal ethnographic study examining midwives' interaction with women in labor and used participant observation role typology devised by Gold (1958) and Junker (1960) and semistructured follow-up interviews. Denzin's (1978) Triangulation method of adopting more than one data collection method served in determining the credibility or validity of a claim by providing a broader, richer, authentic, and trustworthy account (Mason, 2002; Patton, 2002; Silverman, 2000; Spencer, Ritchie, Lewis, & Dillon, 2003). A code-based theory builder computer-assisted qualitative data analysis software (CAQDAS) package, Non-numerical Unstructured Data Indexing, Searching, and Theorizing (NUDIST),
TABLE 1  Entry Criteria

WOMEN WHO WERE:

- To give birth at the local hospital
- In good health with no medical, surgical, or fetal complications
- 37 weeks or more into their pregnancy (term)
- In spontaneous labor
- English speaking

TABLE 2  Participant Observation: The Range of Intrapartum Tasks Accepted or Declined by the Researcher

ACCEPTED TASKS

Supporting the woman (e.g., rubbing her back, holding her hand, making her comfortable)
Fetching items for the woman (e.g., water, wet flannel, telephone)
Fetching items for the midwife (e.g., amnion hook, suture material)
Being a messenger/summoning assistance
Opening items in an emergency (e.g., delivery pack when birth imminent)

DECLINED TASKS

Checking and administering drugs or intravenous fluids
Discussing options of care available to the woman
Offering a professional opinion about the intrapartum care and management
Relieving the midwife from her duties while she or he takes a break
Assisting with procedures (e.g., epidural, instrumental births)

was used to assist with ordering the data collected and supported the data analysis stage that used principles of grounded theory (Glaser & Strauss, 1967).

Data Collection

Following support for the study being obtained from the midwifery manager of the maternity unit and the head of the Academic Department of Obstetrics and Gynaecology, a formal application to the Local Research Ethics Committee was submitted and approved. Women and their partners were given an information leaflet about the study at 32 weeks of pregnancy, with laminated posters being displayed on the notice boards in the waiting areas and consulting rooms within the hospital antenatal clinic. Sampling of women and the attending midwives for observation and interviews was purposive. The entry criteria to the study were that the woman was low risk with nothing of obstetric significance at the outset that could affect her decision making and choices during labor (Table 1). Meetings were held on the maternity wards coinciding with shift handover to inform midwives about the research and gain their consent to take part and recruit women to the study. Upon arrival at the maternity unit, women who fulfilled the study's entry criteria gave their consent to the attending labor ward midwife rather than the researcher.

The study was undertaken on a part-time basis as the researcher worked full time as a midwife lecturer. The researcher visited the labor ward each week for a period of 32 months from April 1997 until December 1999, to observe suitable participants. While waiting to undertake participant observation, the time was used to revisit existing field notes and interview transcripts, make further notes and code the data or be useful to the staff. The researcher sat near to one of the sidewalks inside the labor room to minimize the effect of her presence until her role became more participatory (observer-as-participant). It was decided to only undertake simple tasks that were commensurate with a partner/doula rather than those that would identify the researcher as a midwife and potentially affect the situation being observed (Table 2). Field notes using Spradley's (1980) checklist were made from the time the woman was first observed in labor until she was transferred to the postnatal area following the birth or to the obstetric theatre for an operative procedure. When participating in intrapartum tasks, it became more difficult to write notes as they had to be written retrospectively, concurring with the experiences of Kirkham (1987) and Danziger (1979).

Individual semistructured interviews were undertaken by the researcher with the women and attending midwives or student midwives within 24 hours of the newborn’s birth. The content of the interviews varied as they were based on the researcher's earlier observations of each labor. Participants were offered the interview notes to check for accuracy and authenticity with the opportunity to make any amendments if they wished. As interviews were used as a secondary source...
of data collection to either confirm or refute earlier observations, the responses were manually recorded and later transcribed. As the entry criteria to the study focused on low-risk pregnancies, with the midwife being the main intrapartum care provider, the doctors who were observed were not interviewed as their involvement was often fleeting and limited.

Interviews with the midwives took place within their staff room, but this venue was not always ideal because interruptions were common. The interviews lasted up to an hour but, on a few occasions, had to be curtailed or resumed later if the midwife was called away to support her colleagues when the labor ward was busy. A few of the midwives and student midwives appeared wary of the researcher also being a midwife lecturer and tried to respond according to what they thought was the "correct" response. The degree to which the interview data compared with the observational data, however, determined the authenticity of their responses.

With one exception, all women were interviewed within 24 hours of the newborn's birth so the recall of intrapartum procedures would still be clear in their memory. In the one exception, the woman had gone home 30 minutes before the prearranged interview but returned a prepaid postal questionnaire based on the observations within 6 days of giving birth. Each interview lasted between 45 minutes and 1 hour and took place within the hospital environment. This was either on the labor ward, if the woman had opted for a 6-hour transfer home, or on the postnatal ward. If the woman was occupying a four-bedded room, she was offered the privacy of an alternative room in which to be interviewed, but none of the women chose to move. The conversation, however, was more spontaneous when there were no other persons present and the environment was quieter with distractions/interruptions at a minimum.

Analysis

During the observational stage, 541 participants were observed (Figure 1), and 259 interviews were undertaken (Figure 2), which included the 100 women and 16 student midwives who had played a substantial role in the women's labor. Some midwives were observed on more than one occasion and were interviewed more than once, providing additional comparative data. All demographic details of the participants were kept separately to respect confidentiality. Data from each method were entered into NUD*IST and analyzed separately for comparison. All participants were allocated a chronological numerical code (e.g., Case 1 [woman], Midwife 1, Student Midwife 1).

To ensure that data had been accurately entered into NUD*IST, a colleague randomly selected several case documents to check against the original field notes and interview transcripts. Additional handwritten comments were added in the margins of the hard copies and highlighter pens used to mark any similarities, differences, and emerging themes.
All data from observational field notes and interview transcripts were read and reread so as to become immersed in the data and they were then coded. Themes emerged by constant comparison and inductive coding, developing theory that was grounded in the findings (Glaser & Strauss, 1967). Analysis continued alongside the data collection, further strengthening or weakening themes that had previously emerged. The whole list of themes was inspected with a colleague to cross-check the consistency with which the original codes had been applied to the data according to the study’s focus (LeCompte & Goetz, 1982; Silverman, 2000). As the data collection continued with analysis using principles of grounded theory, it became apparent that by the time the 100th labor had been observed and the interviews completed, saturation point had been reached as new issues were no longer emerging from the observations or the interviews (Bowen, 2008; Strauss & Corbin, 1998). This sample size was comparable to that of Kirkham’s (1987) study of 113 labors. Eventually, 17 themes emerged, which related to intrapartum informed consent. These were further grouped into six categories and three core categories: experiencing the labor ward culture, the quality of intrapartum communication, and the health professionals’ awareness of their professional obligations regarding informed consent. The first core category, experiencing the labor ward culture, is the focus of this article and developed from two categories: compliance and conformity and empowerment and control, which further contained several themes as defined in Table 3.

**FINDINGS**

**Compliance and Conformity**

Unlike in other hospital settings, the woman in labor rarely encounters another laboring woman to acquire information about what to expect and what is expected of her resulting in her becoming dependent on the health professionals. Holding such knowledge places the health professional in a very powerful position and influenced the extent to which women complied and consented to procedures. Within this category there

<table>
<thead>
<tr>
<th>TABLE 3</th>
<th>Experiencing the Labor Ward Culture: Its Categories and Themes</th>
</tr>
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<tbody>
<tr>
<td><strong>CORE CATEGORY</strong></td>
<td><strong>CATEGORY</strong></td>
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<tr>
<td>Experiencing the labor ward culture</td>
<td>Compliance and conformity</td>
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<td></td>
<td>Empowerment and control</td>
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were three commonly expressed themes: *routines, policies and procedures, knowledge and biases of the health professional, and complications of labor.*

**Routines, Policies, and Procedures**

Upon arrival on the labor ward, the woman was always taken through the rituals of the admission procedure by either the midwife or the student midwife unless in established labor with the birth imminent or unless there was an emergency. This consisted of the woman having an identity bracelet placed around her wrist, being asked to undress and put on her own night clothes or a hospital gown, pass urine, and then get onto the bed—activities associated with the role of "the patient." Only on a few occasions were women encouraged to remain dressed or sit in an armchair while they were being admitted.

Regardless of parity and social class, the women in the study stated during the interviews that they needed information to help adjust to labor and the labor ward environment and looked to the midwife to "tell you exactly what to expect," "inform you of your progress," and "keep you informed of what was going on." To what extent information was disclosed and acquired in practice also depended on the extent that the women readily communicated with the midwife or doctor as well as the health professionals' willingness to share their authoritative knowledge. Those women who had experienced labor and childbirth previously had already acquired some familiarity with the routine practices and language of the labor ward and the type of information they needed to know to be able to take part in making intrapartum decisions. However, although only 37 women (24 primigravidae and 13 multigravidae) had attended Preparation for Parenthood classes, none of the women stated at interview that they felt inadequately prepared for labor, as they had acquired information from other sources, such as books or leaflets, media, and friends or family. Entering a technocratic labor ward environment for the first time, however, can be very daunting regardless of parity, especially if this occurs when the woman is in labor as Case 13, who was a teacher recalls during the interview:

Case 13: I suppose I only became anxious when I saw the clinical delivery room with all the machinery for the first time as I'd had my two other children in the other maternity unit. It was quite frightening. I was hoping everything would be alright so the machines wouldn't need to be used.

Following the initial form filling, the midwife informed the woman of the various procedures she "needed to do," which included an assessment of her temperature, pulse, and blood pressure, an abdominal examination, and a vaginal examination. There was very little explanation given to women for the reasons to undertake such procedures. The attempt to ascertain the extent of the women's knowledge about labor practices that they may have acquired through discussions with their community midwives or from previous personal experiences was limited. Midwives routinely used similar phrases when beginning a dialogue with the woman, such as "What I'd like to do is ...," "What I need to do is ...," or "What we'll do is ...," clearly implying that such procedures were part of routine intrapartum practice. No woman refused these procedures when described in such a way, especially if no alternatives were given. Presenting the woman with a list of procedures in professional terminology gave little opportunity to consider each procedure in turn. Thus, when the woman gave her permission, the midwives assumed this gave them the right to undertake all the procedures, giving rise to the term "collective consent."

When the midwife raised the subject of pain relief, it was mainly to offer women pharmacological methods, further endorsing the Western culture of medicalization. There were women from all social classes who expressed they wanted a "pain-free" and "easy labor" and requested epidural analgesia upon admission to the hospital. In some instances, it was ultimately the midwife who controlled the timing and type of pain relief by using delaying tactics such as undertaking a further vaginal examination and writing up her notes. This was more apparent when women requested an epidural as they approached the end of the first stage of labor. Rather than fully exploring the actual reason, some midwives, such as Midwife 32, interpreted women's request for an epidural as them wanting detail regarding when they would be likely to give birth to determine whether they could cope for this length of time. These observations are highlighted in the following extract from Case 97, an unemployed 17-year-old woman:

Case 97: I think I need an epidural.

Midwife 32: Okay. I'll need to check you over first ... do an internal examination to see how far dilated you are before I get an epidural sorted out for you ...
Midwife 32: You're doing wonders here... you're about 7 cm dilated. That's brilliant. I've left the waters intact. You've only got another 3 cm to go. Shouldn't be that long. Do you still want an epidural?

Case 97: Yes.

Midwife 32: Okay, I'll just write up my notes and then I'll get the anesthetist for you. Why don't you try using the gas and air in the meantime?

During the interviews, some midwives expressed that epidural analgesia enabled the woman to “be in control” as they perceived the woman was able to interact more freely with the midwife in making intrapartum decisions when not affected by pain. To the researcher, observing the woman on the bed anesthetized from the waist downward, strapped to a cardiotocograph (CTG) machine on one side of the bed with an intravenous infusion being administered on the other, hardly resembled a woman who was “in control.” As labor progressed, the epidural merely acted as a controlling agent on behalf of the staff ensuring compliance, increasing the woman's dependence on others with the likelihood of interventions, such as bladder catheterization and assisted births.

When a procedure was referred to as “hospital policy,” women regardless of their social class were less inclined to oppose the midwife from carrying it out as refusing such a procedure would be seen as deviant. Even when a woman was offered the opportunity to refuse, there was never any real alternative offered, so she duly complied not to antagonize the staff as shown with Case 94 who was a housewife but had worked as a civil servant prior to having children:

Case 94: K. (Student Midwife 17) asked me for permission to monitor the baby for 20 minutes when I first came in... it was to make sure the baby was okay when I was contracting. . . I was told it was hospital policy, so I had no choice did I... I wasn't given an alternative anyway.

A role typology of midwife and woman emerged from the data regarding how information was disclosed and decisions were made during labor as shown in Table 4 and Table 5, respectively. Some midwives displayed characteristics of a policy-following midwife.

### TABLE 4  Typology of the Midwife

<table>
<thead>
<tr>
<th>THE POLICY-FOLLOWING MIDWIFE</th>
<th>THE BIASED INFORMING MIDWIFE</th>
<th>THE INFORMING, ENABLING MIDWIFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Complies with medico-technocratic model</td>
<td>• Discloses more information: <strong>benefits</strong> rather than <strong>risks</strong></td>
<td>• Fully conversant with evidence-based practice</td>
</tr>
<tr>
<td>• Exerts power over woman</td>
<td>• Uses open questions</td>
<td>• Confident in own knowledge and clinical practice</td>
</tr>
<tr>
<td>• Offers no evidence-based alternatives</td>
<td>• Demonstrates awareness of current research</td>
<td>• Appreciates duty of care to inform and gives balanced view</td>
</tr>
<tr>
<td>• Inflexible to women’s needs</td>
<td>• Not fully aware of professional accountability or duty of care to inform</td>
<td>• Uses open questions, appropriate language</td>
</tr>
<tr>
<td>• Does not demonstrate professional accountability or duty of care to inform</td>
<td>• Involves woman in making decisions</td>
<td>• Recognizes and responds to woman’s body language</td>
</tr>
<tr>
<td>• Uses closed questions</td>
<td>• Obtains consent to procedures but not informed</td>
<td>• Flexible to woman’s needs</td>
</tr>
<tr>
<td>• Never obtains <strong>informed</strong> consent</td>
<td></td>
<td>• Empowers women regardless of their background</td>
</tr>
</tbody>
</table>

THE STUDENT MIDWIFE

• Difficult to classify in any one stereotype

• Emulates some of the characteristics of their mentor

Depends on stage of training: acquisition of personal knowledge, skills, and attitudes
and felt duty bound to follow intrapartum policies and procedures as is seen in the following extract from Midwife 88 regarding administering Syntometrine:

_Midwife 88_: . . . I had to comply with the policy of administering Syntometrine, despite L's (Case 93) Hb (hemoglobin) being 13.5 g/dl. As an employee though, you have to comply with protocols and policies that sometimes limit practising as an autonomous practitioner.

Case 2, a woman who was a teacher, and Case 41, an unemployed woman, were the only two women in the study who expressed they wanted physiological management of the third stage of labor, which meant deviating from the accepted routine labor ward practice. The fact that the unemployed woman's mother accompanied her in labor and was also a midwife helped in supporting the decision when pressurized by the midwife towards active management. Both women proceeded to experience a physiological third stage.

_Midwife 3_: Okay, so you want no drugs for the afterbirth? If you start to bleed heavily, we'll give you the injection to help your uterus contract . . . You do realize that it'll take longer to deliver your placenta if you don't have the injection?

Case 2: Yes, that'll be the only reason for me to decide to have the injection . . . the time.

_Midwife 3_: Right well, we'll see how things go . . . it's still early days yet.

The preceding extract also shows midwives showing characteristics of a biased informing midwife by not always disclosing the full details of the effects of the procedure before seeking consent, presenting a biased view from which the woman was expected to make a decision and comply.

**Knowledge or Biases of the Health Professional**

During the interviews, the midwives acknowledged the relevance of policies and procedures for the safety of women presenting with a degree of risk but felt constrained by such policy when caring for low-risk women. This not only limited their autonomy but also restricted the woman's choice. Regardless of the midwife's personal knowledge of current research, she presented a biased opinion by not informing the woman of any disadvantages or side effects to enable her to make an informed decision to either consent or refuse. The following excerpts from the field notes and interview transcripts from Case 25, who was a packer in a local factory and a multigravida, reflect the advice given by Student Midwife 5 regarding Syntometrine administration that was affected by the preferences or biases of her midwife mentor.

_Student Midwife 5_: Do you remember being given an injection in your leg when you had your other two babies?

(Case 25 looks bewildered and shrugs her shoulders.)

_Student Midwife 5_: You probably can't remember it with everything going on at the time . . . it's given
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as the baby’s shoulder is being delivered. It’s to help speed up the delivery of the afterbirth and reduce the risk of bleeding. . . . You don’t have to have it if you don’t want.

Case 25: I don’t mind.

Student Midwife 5: . . . My information was biased: I didn’t tell her of any side effects. S. (Case 25) wasn’t anemic but I know that S. (Midwife 29), my mentor, would be against a physiological third stage anyway, so I had to go along with her.

Where there was no specific hospital policy, midwives openly disclosed to women the benefits and risks of performing some procedures such as an amniotomy and the possible effects it might have on them and their labor. However, not all women wanted to be empowered to make intrapartum decisions and were seen as ambivalent partners or reluctant recipients looking to the midwife as the expert for her opinion or to undertake this on her behalf. Some women, including those who showed characteristics of an inquisitive decision maker and were generally well informed at the outset of labor, became an ambivalent partner as labor progressed as in Case 44, a woman who was a legal secretary:

Midwife 54: ... would it be okay to examine you again to see if we need to break your waters?

Case 44: Yes that’s fine. I know it’ll get more painful.

Midwife 54: That’s right: Once the waters are broken the contractions tend to speed up the labor. We’ll see how far you’ve progressed first . . .

(Midwife 4 undertakes a vaginal examination.)

Midwife 54: You’re 8 cm: You’ve done well. Do you want me to break them?

Case 44: It’s up to you: What do you think? You’re the expert.

Midwife 54: I don’t think you’ll be much longer in any case if I get on and break them now.

Complications in Labor

In most labors observed (83), the outcome was a spontaneous vaginal birth, with instrumental births occurring in 15 (nine forceps and six ventouse births) and two resulting in emergency cesarean sections. Whenever the midwife referred the management to the doctor, the woman’s opinion was rarely consulted: she was merely told by the midwife of the intended actions. Midwives were seen as gatekeepers of information using the power of their positions to conceal or minimize issues that they thought could cause unnecessary worry or distress to the laboring woman. The act of summoning medical assistance indicated to the woman and her husband or partner that something was wrong and the doctor, having the authoritative knowledge, was expected to alleviate and cure. As a result, even those women who up to this point had been inquisitive decision makers were observed to become compliant and subservient (i.e., a reluctant recipient). While these women recognized that health professionals seldom involved them in making decisions about intrapartum interventions, this was of lesser importance to them than the health of their newborns. The following excerpts from interviews with Case 66, a woman who worked as a part-time cleaner, and Case 60, a woman who was a pharmacy technician, show how both women submitted to the authority of medical knowledge and technology regardless of the consequential effects on their own health and well-being, as the health professionals “knew what was best”:

Case 66: . . . When Dr. L. (SHO 20) and the anesthetist (Anesthetist 20) came in, I was in too much pain to question what they were doing. I just wanted them to get on with it. . . . Dr. L. didn’t ask me for permission when he examined me and broke my waters. He just went ahead telling me it was necessary for the baby’s sake: I had no choice. . . . He put a clip on the baby’s head to monitor her heartbeat as she was distressed. I had no choice as it was for the baby’s benefit. . . . You can’t control what happens when your baby’s distressed.

Case 60: . . . I wanted to avoid being cut this time but I really had no choice as the baby was showing signs of distress. G. (husband) questioned the need to do a cut as I was in no position to do so myself: I was actually pushing when it was first mentioned. . . . At the very hint of urgency or emergency, there’s no informed consent I mean . . . with the episiotomy. We respect that the professionals know what’s best for us.

There was rarely any permission sought from the woman before the doctor undertook procedures or any challenge of their decisions by the woman or midwife. The doctor was seen to be the gatekeeper of information, often leaving the actual task of informing the woman to the midwife. Through their medical training,
Obstetricians become socialized into the culture of technology and intervention that is perceived traditionally to be masculine. Consequently, when observing the female obstetricians undertaking intrapartum procedures, their practice bore little difference to that of their male counterparts. They exerted the same dominance as the male obstetricians that women, regardless of their social class, readily accepted as the norm.

Empowerment and Control

Throughout the study it was observed that those midwives who were confident with their knowledge and clinical practice and more challenging of medicalization demonstrated characteristics of an informing and enabling midwife, encouraging some women into taking control and playing an active part in intrapartum decisions. This category examines the themes of being in control and feeling valued and the use of birth plans.

Being in Control and Feeling Valued

Within the study, there were midwives who attempted to change the labor ward environment and organized a rocking chair or bean bag and mat for the woman to use, albeit amid the existing technological machinery. Placing the woman's bags on the birthing bed detracted the woman from getting onto it and assuming the "patient role" from the outset. Women expressed in the interviews that they were influenced into sitting in the armchair or rocking chair or remaining mobile, whichever they found most comfortable. They "felt at ease . . . .", "felt in control . . . .", and "felt free to let my body dictate what to do during contractions."

Regardless of the woman's social class, there were instances where the midwife demonstrated attributes of the informing, enabling midwife and deviated from the admission routine, making the decision with the woman regarding when to undertake certain procedures. This is shown in the following excerpt from the field notes of Case 70, a woman who was a cleaner and Midwife 2:

**Midwife 2:** Right, I can see that you're in labor... I'll have a listen into the baby's heart and then you can have a wander around. There's no need to do an internal for the moment, unless you want something for the pain.

**Case 70:** No I'm fine at present. I might have some gas and air later...

Midwives who provided continuity of care to the one woman for the duration of her labor were able to build up a trusting relationship. These midwives were in a better position to enable women sufficiently enough to feel more powerful and make decisions about their care. This could sometimes mean going against what the midwife had originally intended to do as highlighted in the labor of Case 11, a woman who was a civil servant:

**Midwife 14:** Same as before... You've made some progress: the cervix is more central and much thinner... but it's still only about 6 cm dilated.

**Case 11:** Can you leave the waters for the moment?

**Midwife 14:** Okay. What about wandering about to get things moving more?

**Case 11:** Yes, that's fine.

**Midwife 14:** D. (Midwife 34) valued my opinion especially about breaking the waters. I'd not made as much progress as I should've but I knew it would be more painful if she broke them... So I asked her to leave them alone and agreed to walk about to get things moving.

In the preceding example, the woman was still aware that her progress was not according to what was expected. Midwives were often faced with a conflict of interests. Although they attempted to enable women to make intrapartum decisions, they were aware of complying with the culture of processing women through the technocratic childbirth model that dictated vaginal examinations to be undertaken every 4 hours to ensure sufficient progress was being made.

Where the care was fragmented, it was not as easy for women to exert any control in their labor. Some midwives perceived there to be value in the woman having a written birth plan when they handed her care over to a colleague to ensure her wishes and decisions regarding intrapartum procedures continued to be respected.

The Use of Birth Plans

Only 51 women (24 primigravidae and 27 multigravidae mainly from social classes I, II, and III) had completed a birth plan either prior to or during their labor. However, Case 41, who was an unemployed woman, was one of the few women from the lower social classes to have completed a birth plan prior to labor, influenced by her mother also being a midwife. The two
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midwives who were part of a community and hospital integrated midwifery team had discussed the birth plan with the women during the antenatal period and had an increased awareness of the women's level of understanding and expectations of labor and birth than their hospital colleagues. Only 17 women (five primigravidae and 12 multigravidae) were encouraged to formulate a birth plan during labor using the hospital form consisting of a predetermined menu of options. Regardless of the stage of labor at which the woman presented, the birth plan was not always used as effectively as it could have been by midwives to explore the woman's knowledge and understanding of intrapartum procedures prior to seeking consent. Nevertheless, some women expressed that writing a birth plan had enabled them to take an active part in the decision-making process and had felt valued by the midwife as the following interview excerpts with Midwife 4 and Case 77, who was a staff nurse, illustrate:

**Midwife 4:** . . . I respected her birth plan: it was straightforward anyway. . . . It's not always possible to communicate with women if they're concentrating on their labor, using gas and air . . . to get informed consent. A birth plan helps . . . it informs the midwife of the woman's wishes for labor and delivery in a written format.

**Case 77:** . . . I feel that it's important to be open-minded as both my labors were very different. It doesn't hurt to write a birth plan, but you need to discuss it with your midwife to make sure it's realistic. . . . It's useful if you're unable to express yourself fully when admitted in labor . . . your opinions are still valued.

Those women who had not made a written birth plan, stated during the interviews that they had a mental plan focusing mainly on their choice of analgesia. Some of the reasons given for having not compiled a written birth plan are reflected in the interview excerpt with Case 72, a woman who was a reprographics administrator and a primigravida and whose opinion deviated from that of others from within her social class:

**Case 72:** . . . I didn't make a birth plan. . . . I only really wanted to have an epidural and for P. (partner) to be with me. . . . I didn't want an episiotomy or forceps though. . . . It's pointless writing a birth plan unless you've experienced labor before. I've heard that they usually "go to pot" anyway, so what's the point? I wasn't that bothered: I just let the midwife get on with things. . . . I got my epidural and I watched the tennis on TV.

Women recognized that a birth plan could not always be fulfilled should their labor develop complications and, in contrast to the preceding extract, some women felt that it had a value in representing their voice if they were unable to do so themselves. As a result of fetal distress resulting in her own birth plan being abandoned, Case 80, a woman who was a ward manager, stated that regardless of the outcome, she would still complete a birth plan next time.

**Case 80:** . . . It's a tool for discussion between you and the midwife regarding normal labor procedures where your opinion also matters . . . and when it gets difficult to communicate . . . as long as all goes well. . . . At the outset you don't know if your labor will go according to the plan anyway . . . mine didn't . . . I'd still write another one and encourage others to do so as labors can be very different.

**DISCUSSION**

Because the study was conducted within the environment of a hospital labor ward, it is inappropriate to speculate that the findings can be extrapolated in totality to all populations of childbearing women, midwives, and doctors as well as birth environments (Ward-Schofield, 1993). Although similarities may be found in labor wards in other large maternity units where the culture is based on a technocratic model, the degree to which they can be extended to all midwives will depend on how stable that population actually is. Further studies could be undertaken to explore how the culture of alternative birth environments such as midwifery-led units, birth centres, and the woman's home influences the gaining of consent to intrapartum procedures to compare with this study's findings.

Garcia, Garforth, and Ayers (1987) purported that routines tend to be driven by the demands of the organization and can become so fixed that midwives cease to be flexible and responsive to women's needs.
Furthermore, midwives can become socialized into a culture of busyness and use routine as a coping strategy to gain control (Bate, 1984; Wilson, 2000). Although the constraints of working within the culture of a technocratic environment of a hospital labor ward limited the extent to which the informing, enabling midwife was observed, it still remains a challenge for midwives to aspire to this typology rather than the policy-following midwife. Knowing that students emulate some of the attributes of their mentors, education and service providers should aim to prepare future midwives to be autonomous, accountable practitioners who are confident in their role and capable of informing and enabling women to make intrapartum decisions regardless of the environment they practise in (Bluff & Holloway, 2008; Charters, 2000; Royal College of Midwives [RCM], 2003; Twentyman, Eaton, & Henderson, 2006).

Although it is recognized that it is not an ideal time for midwives to develop a relationship with women in labor, it was apparent that the midwives generally communicated well, with some being more effective than others. Most midwives in the study possessed the attributes associated with the biased informing midwife. This would also concur with Fraser (2002), Stapleton et al. (2002), and Levy (1999) who had discovered that information was given in such a way as to steer women into making decisions that were more in line with the midwives' views. Furthermore at interview, some midwives expressed considerable dissonance between their own ideals and their practice feeling bound by hospital policy regarding intrapartum care.

Most women in this study became easily socialized into the labor ward and its technocratic model of childbirth readily accepting what was offered or what was done to them by the midwives and medical staff. The typology of women observed related to bow they were seen to deal with information disclosed to them and subsequently make decisions about their intrapartum care. Although it may be considered by some authors that midwives should be enabling all women to be inquisitive decision makers (Cooke, 2005; DH, 2007; Levy, 1999) regardless of social class, some women in the study did not necessarily want to be in control or to give birth without any analgesia or medical intervention and trusted the expert opinion of the midwife or doctor. Although these findings differ from previous studies by Green et al. (1998) and Lazarus (1997), it would be pertinent to suggest that women's expectations of birth in a technocratic birthing environment needs more examination to further substantiate such claims. Unlike the midwives in the study whose typology tended to remain constant regardless of however many times they were observed during the study, those of the women changed according to how labor affected their ability to communicate. As a result of labor advancing, pain increasing, or complications developing, some women who were observed as inquisitive decision makers at the outset of labor became a reluctant recipient. Midwives should therefore recognize the different ways in which women respond at various stages in their labor.

Although observed less frequently in the study, the reluctant recipient remains the most challenging for midwives regarding obtaining consent to undertake intrapartum procedures because of the difficulty in ensuring that the woman has been given sufficient information and fully understands the benefits and risks involved. It is therefore important that intrapartum records accurately reflect the discussions that take place detailing that the woman has chosen to entrust the midwife to make appropriate decisions on her behalf (Dimond, 2006; NMC, 2004, 2010).

Where women were observed to be an ambivalent partner, they appeared eager to communicate with the midwife and acquire information but seemed just as unwilling to take part in making decisions as the reluctant recipient. Midwives should never be complacent as far as undertaking intrapartum procedures and assume that women do not want to make decisions when they ask questions such as “What would you do?” or “I don’t know, you decide.” Even when all possible effects have been disclosed by the midwife, indecision on the woman's part where consent is not formally expressed does not determine that the midwife has the right to undertake the procedure.

As is common in the Western technocratic model with its fragmentation of care, most women had never met the midwife undertaking their intrapartum care in advance of labor commencing to discuss their birth options. Midwives believed the labor ward was not the ideal place to discuss labor options fully and formulate a birth plan because of the limited time available. The attitudes that some women had toward birth plans were similar to those identified in Green et al’s (1998) study. The birth plan was totally ignored by the staff and therefore deemed pointless or “going to pot” by the turn of events and the development of complications in labor.

Where a birth plan had been discussed in labor, women felt valued by the midwife by playing an active part in making decisions about their care (Green et al., 1998; Moore & Hopper, 1995; Whitford & Hillan, 1998). When complications developed, or decisions had to be made in a hurry, providing the woman was kept
informed of any decisions that were made, the majority still felt valued by the midwife even though their birth plan was unable to be fulfilled.

Although the hospital birth plan consisting of its preset menu of options could be viewed as another form of coercion in the guise of choice, Price (1998) suggested that this format offers a more realistic approach to planning a woman's birth where the labor ward culture is based on a technocratic model and true choice is not available. Until there are real maternity care options available for women, they are unlikely to be able to plan anything other than a medical birth (Nolan, 2004). To encourage a cultural change that embraces a holistic model of childbirth, it may be that more emphasis is placed on educating the media about the normal physiological processes of birth.

The documenting of antenatal discussions by community midwives about the benefits and risks of intrapartum procedures to mother and fetus should be given more prominence where maternity care is fragmented. Furthermore, the development of a check list of these procedures and to which the woman would give her consent prior to the onset of labor should be explored, being in keeping with the guidelines on consent to examination and treatment (DH, 2009). However, such details should only be used to support decisions that are made in labor and not a substitute for midwives checking the extent of a woman's knowledge and understanding of a procedure before obtaining consent to proceed.

The U.K. government has placed strong emphasis on informed choice within health care and maternity care practices (DH, 2004, 2007, 2008), because this is the basis of gaining informed consent to examination and treatment (DH, 2009). It is important that health professionals recognize the complexities surrounding intrapartum informed choice and informed consent including the effect that the birthing environment can have on these concepts. While health professionals continue to embrace the Western technocratic model of childbirth throughout the world, it is unlikely women will be given the full range of choices to inform their decision making.

CONCLUSION

This study has identified that when intrapartum care is undertaken within a labor ward environment that is based on the Western culture's technocratic model, the availability of true choices to childbearing women are limited and informed consent is rarely obtained. Contrary to professional belief, not all women in this study wanted to be fully informed about intrapartum care and procedures and trusted the expert opinion of the midwife or doctor to make decisions on their behalf especially where the health of their newborn was concerned.

It may be useful for midwives to consider the two typologies developed from this study to examine their communication and interpersonal skills and the cultural influence of the birthing environment in which they practise when offering choices to women and gaining consent to intrapartum procedures. Where care is fragmented, further exploration is required to establish the optimal timing of information disclosure about intrapartum practices prior to the onset of labor because it was found that undertaking this during labor is not ideal.

The ultimate challenge lies with changing the culture of the birth environment. While midwives continue to demonstrate the attributes of a policy-following midwife or a biased informing midwife, they are reinforcing Western culture's perspective of childbirth. Until birth culture is universally viewed through a holistic birthing model giving authoritative knowledge to the laboring woman, health professionals will continue to control the birth experience. In the wider context, it is anticipated that these findings may be used in partnerships between the maternity service and education providers and the women they serve to ensure that what is provided in practice, is congruent with the needs and expectations of local childbearing populations.

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Correspondence regarding this article should be directed to Jayne E. Marshall, PhD, MA, RGN, RM, ADM, PGCEA, University of Nottingham, Faculty of Medicine and Health Sciences, Nottingham University Hospitals NHS Trust (City Campus), Hucknall Road, Nottingham NG5 1PB, United Kingdom. E-mail: jayne.marshall@nottingham.ac.uk

Jayne E. Marshall, PhD, MA, RGN, RM, ADM, PGCEA, midwife lecturer, University of Nottingham, Faculty of Medicine and Health Sciences, School of Nursing, Midwifery and Physiotherapy, Academic Division of Midwifery, Nottingham University Hospitals NHS Trust (City Campus), Nottingham, United Kingdom.

Diane M. Fraser, BEd, MPhil, PhD, MTD, RM, RN, former head of division, University of Nottingham, Faculty of Medicine and Health Sciences, School of Nursing, Midwifery and Physiotherapy, Academic Division of Midwifery, Nottingham University Hospitals NHS Trust (Queens Medical Centre Campus), Nottingham, United Kingdom.

Professor Philip N. Baker, BMedsSci, BM, BS, DM, FRCOG, FMedsSci, dean, Faculty of Medicine and Dentistry, University of Alberta, Edmonton, Alberta, Canada.

Andrea Nove, Ann Berrington, and Zoë Matthews

BACKGROUND AND OBJECTIVES: This study aims to identify factors that have an independent association with planned home birth. It investigates the social, demographic, and obstetric profile of those who choose home birth as compared with those choosing hospital birth. This crucial evidence is lacking in the U.K. context and is needed when comparing pregnancy outcomes of different birth settings. Otherwise, the comparison is problematic because observed differences in incidence of pregnancy outcomes may be due to the fact that different types of women choose different birth settings. It is important to understand these differences in order to control for them.

METHOD: This is an observational study involving secondary analysis of computerized maternity records from 15 hospitals in the former North West Thames Regional Health Authority (RHA) area. All pregnancies that resulted in a live or stillbirth in the years 1988–2000 are included (N = 515,777). Two binary logistic regression models are used: one with intended place of birth at booking as the outcome and the other with actual place of birth as the outcome.

RESULTS: Women who are parous, White European, aged 30 and older, living in a relatively affluent area, and partnered are most likely to intend a home birth. Among those who intend a home birth at the end of pregnancy, predictors of achieving a home birth include an uncomplicated and relatively short labor, being parous, a low-risk pregnancy, and being White European. The hospital providing maternity care predicts the outcome for both models.

CONCLUSIONS: Key variables robustly predict an intention to deliver at home and the achievement of a planned home birth. Studies comparing the outcomes of different birth settings in the United Kingdom should control for these variables.

KEYWORDS: home birth; choice; risk; intrapartum transfer

INTRODUCTION

Studies of place of birth tend to focus on comparing the birth outcomes of women giving birth in different settings (de Jonge et al., 2009; Hutton, Reitsma, & Kaufman, 2009; Mori, Dougherty, & Whittle, 2008; Olsen, 1997). Most of these studies show that, for low-risk pregnancies in developed countries, outcomes of planned home births are as good as—if not better than—those of planned hospital births. However, one of the problems inherent in these comparisons is the fact that women who have planned home births in the United Kingdom and other countries (e.g., the Netherlands and the United States of America) are not a
random subset of the population of childbearing women (Anthony, Buitendijk, Offerhaus, van Dommelen, & van der Pal-de Bruin, 2005; Boucher, Bennett, McFarlin, & Freeze, 2009; Chamberlain, Wright, & Crowley, 1997; Nove, Berrington, & Matthews, 2008). Therefore, we cannot be sure that differences in outcomes are due to place of birth per se or to the fact that the women who choose a home birth tend to be those who would have positive pregnancy outcomes regardless of where they gave birth (McLachlan & Forster, 2009; Vedam, 2003). It is important to understand the ways in which women who have planned home births differ from women who have planned hospital births, so that studies to compare the outcomes of different birth settings can take these differences into account in their design.

Previous research (Anthony et al., 2005; Boucher et al., 2009; Chamberlain et al., 1997; Redshaw, Rowe, Hockley, & Brocklehurst, 2007) has concluded that women who have planned home births tend to be older than average, White, middle class, and parous; tend to have had an uncomplicated pregnancy; and tend not to have had a previous cesarean section. Differences between the personal characteristics of women having planned home births and those having planned hospital births have, however, only ever been estimated with respect to particular key factors in isolation as part of a single-variable analysis, and no attempt has been made to control for confounding. For example, age and parity are likely to be confounded because older women are more likely to have given birth before. The work of Anthony et al. (2005) indicates that age has an association with place of birth independent of parity, but they did not use multivariable regression models to control for confounding. The current study provides a significant step forward by using, for the first time, a large-scale U.K. dataset and multivariable models to identify women's characteristics, which have an independent association with place of birth after adjustment for other related factors.

In the United Kingdom, most pregnant women receive maternity care from the National Health Service (NHS), and in most parts of the United Kingdom, NHS maternity care providers are employed by individual NHS hospital trusts. Therefore, even if they are planning a home birth, most women receive antenatal, intrapartum, and postpartum care from health professionals directly employed by a specific hospital (except those employing an independent midwife; this is rare) (Symon, Winter, Inkster, & Donnan, 2009). U.K. vital registration data have revealed regional variations in take up of home birth (Nove et al., 2008), and previous research has identified wide variations in home birth rates between NHS trusts in England, even when rates were adjusted for age and parity (Healthcare Commission, 2007). The extent to which hospital-level variations remain after factors other than age and parity are taken into account has never been quantitatively estimated in the United Kingdom. In addition to identifying individual-level characteristics that were associated with intending and having a home birth, this article does make such estimates, but does not attempt to explain which hospital-level characteristics might influence women's access to a home birth service. The data that might have allowed such explanations to be made were not available.

The primary aim of this study, therefore, is to identify demographic, health, and obstetric characteristics that have an independent association with intending and having a planned home birth.

**METHODS**

**Study Design**

This is an observational study involving secondary analysis of maternity records, in which information was recorded contemporaneously as pregnancies progressed. The data come from pregnancies ending in the years 1988–2000 inclusive that were recorded on the St. Mary's Maternity Information System (SMMIS), a computerized records system that was used by most of the hospitals within the former North West Thames RHA area. A total of 515,777 pregnancies from 15 hospitals were eligible for inclusion in this study after the deletion of pregnancies that did not result in a live or stillbirth at one of the 15 hospitals.

About 80% of pregnancies in the RHA area at the time were captured on the SMMIS database (National Centre for Health Outcomes Development, 2008), the remainder being those receiving care from the hospitals in the region, which did not participate in the central collation of their data into this single database. The participating hospitals came from a wide range of types and locations, so there is no reason to suppose that the results are unrepresentative of the region as a whole. Studies have concluded that the completeness and quality of the information recorded within SMMIS is good. For example, studies comparing the information recorded on the computerized database against case notes found a very high degree of corroboration and a high level of consistency across different hospitals (Bugg, Atwal, & Maresh, 2002; Cleary et al., 1994).
The SMMIS database is extremely useful for the study of pregnancy outcomes by place of birth, because it overcomes many of the problems inherent within other U.K. data sources. For example, (a) SMMIS contains a wealth of directly relevant demographic, health, and obstetric information about individual women (more than 200 items of information were recorded for each pregnancy); (b) intended place of birth was recorded under the system, as well as actual place of birth, thus, allowing planned home births to be identified; (c) the dataset contains a very large number of observations; more than 6,000 planned home births were included even though they made up only 1.2% of the total; and (d) it allowed the research team to objectively classify each pregnancy into a risk category, thus allowing the key covariate of pregnancy risk status to be included in the analysis.

A SMMIS record was created for each woman presenting for maternity care. In most cases, the record will have been created by a midwife at the booking appointment (a booking appointment is usually the woman's first consultation with a midwife and usually takes place within the first trimester of pregnancy). SMMIS recorded the woman's intended place of birth at booking. If the actual place of birth was different from the intended place of birth at booking, there was a field for maternity care providers to record the reason for and timing of the change. From this information, it was possible to identify women who changed their intention during pregnancy and those who attempted a home birth but were transferred to hospital during labor.

Covariates chosen to be included in the models were based on a review of past literature (particularly Chamberlain et al., 1997; Redshaw et al., 2007) and information from other data sources including (a) vital registration (Office for National Statistics, 2008), (b) the Growing Up in Scotland birth cohort study (Scottish Centre for Social Research, 2008), and (c) the 2007 Healthcare Commission review of maternity services in England (Commission for Healthcare Audit and Inspection, 2008). Although these data sources provided useful insights into external factors such as period time trends in home birth rates and the mother's characteristics such as age and parity, they lacked the detailed information (e.g., on the woman's previous health and obstetric history), which was found in the SMMIS dataset. All the identified covariates were included in the model-building process (see Table 2 for a full list), but those without a statistically significant association with the outcome at the 95% level were excluded from the final models. The model was checked for collinearity in two ways: (a) extensive exploratory analysis identified covariates that were collinear and (b) as the models were being built, these covariates were checked to make sure there were sufficient observations with these combinations of characteristics, and that the models were stable when pairs of collinear variables were included. Interaction terms were chosen a priori before the analysis commenced.

Statistical Analyses

Figure 1 shows the numbers of women in the dataset following each path through pregnancy.

Four binary logistic regression models were built to identify the characteristics associated with following different paths, as described in Table 1. The results of Models 1 and 3 are discussed in detail in this article; Models 2a and 2b are not presented because of lack of space but are summarized in the "Discussion and Conclusions" section and full details are available on request.

Odds ratios and predicted probabilities were calculated for each outcome variable. For ease of interpretation, predicted probabilities are presented here, calculated based on reference pregnancies. For each covariate, a reference category was selected against which the other categories of that variable could be compared when interpreting each model. For most covariates, the reference category was the group most likely to have a planned home birth, but to aid model interpretation, in few cases the numerically largest group was selected as a reference. Table 2 details the reference categories for each covariate in the intention at booking and actual place of birth models (Models 1 and 3). Blank cells represent covariates that did not feature in that model because they were found not to have a significant association with the outcome.

The "prepregnancy risk status," "pregnancy risk status," and "labor complications" variables were derived from International Classification of Diseases (ICD) codes (World Health Organization, 1992), which were inputted into the SMMIS record by trained clerks based on physician diagnosis (Balchin, Whittaker, Lamont, & Steer, 2008). Pregnancies were classified according to National Institute for Health and Clinical Excellence (NICE) guidance issued in 2007 (National Collaborating Centre for Women's and Children's Health, 2007); they were classified as "high risk" if any of the conditions identified by NICE as "suggesting planned birth at an obstetric unit" were recorded, as "medium risk" if any of the conditions identified by NICE as "indicating individual assessment when planning place of birth" were recorded and as "low risk" if none of these conditions was recorded. A pregnancy was classified as having complications in labor...
if any of the conditions listed by NICE as being indications for intrapartum transfer from home to hospital (e.g., signs of fetal distress) were present. The exception was "maternal request for epidural anesthesia" because it was not recorded in SMMIS and is not necessarily indicative of a clinical complication. It should be noted that the data used in this analysis predated the NICE guidance. No national guidance on risk classification and how it related to home birth existed in the United Kingdom in 1988–2000 (Campbell, 1999); hence, the decision to use the 2007 guidance. The use of the conditions listed in the guidance can be considered valid as an objective measure of elevated risk, but clinicians' and women's knowledge and opinions about risk at the time may not have been fully in line with the content of the 2007 guidance.

The predicted probability calculation assumes that the pregnancy in question has all the characteristics of a reference pregnancy except for the covariate under consideration (or covariates in the case of two-way interactions) and therefore shows the effect of changing just those covariates on the predicted probability of experiencing the outcome.

### TABLE 1 Stages of Modeling, Outcome Variables, and Groups Modeled at Each Stage

<table>
<thead>
<tr>
<th>MODEL</th>
<th>OUTCOME VARIABLE</th>
<th>GROUP MODELED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intended place of birth at booking (home or hospital)</td>
<td>All</td>
</tr>
<tr>
<td>2a</td>
<td>Whether or not intended place of birth changed from hospital at booking to home before labor commenced</td>
<td>All who intended a hospital birth at booking</td>
</tr>
<tr>
<td>2b</td>
<td>Whether or not intended place of birth changed from home at booking to hospital before labor commenced</td>
<td>All who intended a home birth at booking</td>
</tr>
<tr>
<td>3</td>
<td>Actual place of birth (home or hospital)</td>
<td>All who intended a home birth at the end of pregnancy</td>
</tr>
</tbody>
</table>

NB The "changed intention" figures do not sum to the "intention at booking" figures because it was not always possible to establish whether or not intentions changed between booking and the end of pregnancy. Such cases were included in the analysis of intention at booking, but excluded from analyses of changes in intention and actual place of birth.
TABLE 2  Reference Categories for Intention at Booking and Actual Place of Birth Models

<table>
<thead>
<tr>
<th>COVARIATE</th>
<th>REFERENCE CATEGORY FOR INTENTION AT BOOKING MODEL</th>
<th>REFERENCE CATEGORY FOR ACTUAL PLACE OF BIRTH MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital (reference letter)</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>Year</td>
<td>1997–1998</td>
<td>White European</td>
</tr>
<tr>
<td>Ethnic group</td>
<td>30–34</td>
<td>No</td>
</tr>
<tr>
<td>Interpreter required</td>
<td>White European</td>
<td>No</td>
</tr>
<tr>
<td>Age at child birth</td>
<td>1 or 2 (least deprived)</td>
<td>Low</td>
</tr>
<tr>
<td>Carstairs deprivation quintile</td>
<td>Partnered</td>
<td>Low or medium</td>
</tr>
<tr>
<td>Partner status</td>
<td>No</td>
<td>1+</td>
</tr>
<tr>
<td>Last newborn low birth weight</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Previous termination(s)</td>
<td>No</td>
<td>Less than 9 hours</td>
</tr>
<tr>
<td>Previous miscarriage(s)</td>
<td>No</td>
<td>2,500 g–3,999 g</td>
</tr>
<tr>
<td>Pregnancy risk status</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Parity</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Labor complications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Stage 1 of labor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birth weight of current newborn</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RESULTS

First, the factors predicting intended place of birth at the booking appointment are reviewed (Model 1), followed by a discussion of factors predicting the likelihood of achieving a planned home birth (Model 3). The full model results including interactions are not shown in this article for reasons of space, but can be accessed online.

Intended Place of Birth at Booking (Model 1)

Numerous covariates predicted the intention at booking to have a home birth; the strongest predictors were parity, hospital, and ethnic group. The results are presented here separately for covariates that had an independent association with intention at booking and for covariates which were involved in two-way interactions. The intention at booking model contained four interaction terms (all of which involved hospital or parity): (a) hospital and year, (b) hospital and parity, (c) parity and mother's ethnic group, and (d) parity and mother's age at delivery.

The interaction between hospital and year showed that the time trend in intending a home birth at booking was different for different hospitals. Five hospitals showed steady increases over time; two showed very little change over the 13-year period and six showed a relatively sharp drop between 1997–1998 and 1999–2000. One was unusual in that its predicted probability fell sharply after 1991–1992.

The three interactions involving parity found that women having their first newborn tended not to plan a home birth regardless of their other characteristics, and women having their third or subsequent newborn were more likely to intend a home birth than those having their second newborn. Figure 2 shows that the difference between higher- and lower-parity women was considerably more marked in some hospitals than in others (hospitals are identified using a letter rather than the name of the hospital). Because factors such as pregnancy risk status and mother's sociodemographic profile were held constant in the model, these results indicate that interhospital variations in the proportion of women planning home birth were not simply due to different hospitals serving different types of women.

There was also a marked difference in intended place of birth between higher- and lower-parity women in all ethnic groups except Oriental, Mediterranean, Black African, and South Asian. In these groups, women tended not to intend a home birth at booking regardless of their parity. The group most likely to intend a home birth at booking was White European women having their third or subsequent newborn.

Women of Parity 2 or higher were more likely to intend a home birth at booking, particularly if they were older than 30 years. The model results for women older than 35 years were not significantly different from those for women aged 30–34, whereas the observed data showed that women older than 35 years were considerably less likely than those aged 30–34 to intend a home birth at booking. This indicates that the lower likelihood
Characteristics Associated With Intending and Achieving a Planned Home Birth

Table 3 details the observed data and predicted probabilities from the intended place of birth model for the covariates that were not involved in interactions. It shows that once other observed covariates were held constant, women who lived in relatively affluent areas, were partnered, had no preexisting high-risk factors (e.g., diabetes), and had had positive outcomes to previous pregnancies were most likely to be recorded as having intended a home birth at booking. The observed figures show that women who had had one or more previous miscarriages were more likely than those who had had no miscarriages to intend a home birth, but once the figures were adjusted for the other covariates, the opposite was true. This is because of the observed data being confounded; older and higher-parity women were both more likely to have had previous miscarriages and to intend a home birth.

Actual Place of Birth (Model 3)

Figure 1 shows that most of those who intended a home birth at the end of pregnancy went on to have one, with 13% being transferred to hospital during labor. Modeling of whether a planned home birth was achieved found that, unsurprisingly, the strongest predictor of achieving a planned home birth was an uncomplicated labor. However, the covariate indicating complications in labor interacted significantly with the hospital identifier; most of the variation by hospital was found in the group who experienced labor complications as illustrated on Figure 3. There was relatively little variation by hospital among those who did not develop complications.

The modeling also indicated that even when hospital and labor complications were held constant, women experiencing relatively long labors, those having their first newborn, those with high-risk pregnancies, and those from certain minority ethnic groups were more likely to experience an intrapartum transfer to hospital after an attempt at a planned home birth. These results are detailed
### TABLE 3  Predictors of Intending a Home Birth at Booking: Covariates Not Involved in Interactions

<table>
<thead>
<tr>
<th>COVARIATE</th>
<th>INTENDED A HOME BIRTH (OBSERVED)</th>
<th>PREDICTED PROBABILITY</th>
<th>95% CONFIDENCE INTERVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Prepregnancy risk status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>5,961</td>
<td>1.50</td>
<td>.092</td>
</tr>
<tr>
<td>Medium</td>
<td>504</td>
<td>1.18</td>
<td>.060***</td>
</tr>
<tr>
<td>High</td>
<td>413</td>
<td>.57</td>
<td>.025***</td>
</tr>
<tr>
<td>Carstairs quintile</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 or 2 (least deprived)</td>
<td>3,467</td>
<td>1.79</td>
<td>.092</td>
</tr>
<tr>
<td>3 or 4</td>
<td>2,264</td>
<td>1.09</td>
<td>.070***</td>
</tr>
<tr>
<td>5 (most deprived)</td>
<td>451</td>
<td>.67</td>
<td>.059***</td>
</tr>
<tr>
<td>Missing</td>
<td>696</td>
<td>1.52</td>
<td>.133***</td>
</tr>
<tr>
<td>Partner status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>551</td>
<td>.78</td>
<td>.065***</td>
</tr>
<tr>
<td>Partnered</td>
<td>6,327</td>
<td>1.43</td>
<td>.092</td>
</tr>
<tr>
<td>Last newborn low birth weight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>126</td>
<td>.64</td>
<td>.046***</td>
</tr>
<tr>
<td>No</td>
<td>6,752</td>
<td>1.37</td>
<td>.092</td>
</tr>
<tr>
<td>Previous termination(s)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>792</td>
<td>1.07</td>
<td>.074***</td>
</tr>
<tr>
<td>No</td>
<td>6,086</td>
<td>1.38</td>
<td>.092</td>
</tr>
<tr>
<td>Previous miscarriage(s)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1,555</td>
<td>1.52</td>
<td>.080***</td>
</tr>
<tr>
<td>No</td>
<td>5,323</td>
<td>1.29</td>
<td>.092</td>
</tr>
</tbody>
</table>

*p < .05, **p < .01, ***p < .001.

---

**FIGURE 3**  Predicted probabilities for achieving a planned home birth among those who intended a home birth at the end of pregnancy, by hospital and whether or not there were labor complications.
TABLE 4 Predictors of Achieving a Planned Home Birth for Those Who Intended a Home Birth at the End of Pregnancy: Covariates Not Involved in Interactions

<table>
<thead>
<tr>
<th>COVARIATE</th>
<th>ACHIEVED A PLANNED HOME BIRTH (OBSERVED)</th>
<th>PREDICTED PROBABILITY</th>
<th>95% CONFIDENCE INTERVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of Stage 1 of labor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;9 hours</td>
<td>5,244</td>
<td>91.39</td>
<td>.967</td>
</tr>
<tr>
<td>9+ hours</td>
<td>705</td>
<td>64.62</td>
<td>.911***</td>
</tr>
<tr>
<td>Missing</td>
<td>171</td>
<td>82.21</td>
<td>.960</td>
</tr>
<tr>
<td>High-risk pregnancy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>655</td>
<td>73.30</td>
<td>.898***</td>
</tr>
<tr>
<td>No</td>
<td>5,465</td>
<td>89.14</td>
<td>.967</td>
</tr>
<tr>
<td>Birth weight of current newborn</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;2,500 g</td>
<td>51</td>
<td>60.71</td>
<td>.827***</td>
</tr>
<tr>
<td>2,500-3,999 g</td>
<td>4,989</td>
<td>86.96</td>
<td>.967</td>
</tr>
<tr>
<td>4,000+ g</td>
<td>1,080</td>
<td>88.82</td>
<td>.974*</td>
</tr>
<tr>
<td>Parity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 (first newborn)</td>
<td>645</td>
<td>64.95</td>
<td>.918***</td>
</tr>
<tr>
<td>1+</td>
<td>5,475</td>
<td>90.59</td>
<td>.967</td>
</tr>
<tr>
<td>Ethnic group</td>
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<td></td>
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</tr>
<tr>
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<td>5,504</td>
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<td>.967</td>
</tr>
<tr>
<td>Black Caribbean</td>
<td>88</td>
<td>83.81</td>
<td>.961</td>
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<tr>
<td>Oriental, Mediterranean,</td>
<td>137</td>
<td>75.27</td>
<td>.946**</td>
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<tr>
<td>Black African, South Asian</td>
<td></td>
<td></td>
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<tr>
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<tr>
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<td>88.24</td>
<td>.974</td>
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<tr>
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<td>13</td>
<td>59.09</td>
<td>.870**</td>
</tr>
<tr>
<td>No</td>
<td>6,107</td>
<td>87.06</td>
<td>.967</td>
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</table>

*p < .05, **p < .01, ***p < .001.

in Table 4. Note that "failure to progress" was classed as a labor complication, so the results for "duration of labor" show that a long labor was associated with intrapartum transfer even if failure to progress was not diagnosed.

DISCUSSION AND CONCLUSIONS

Study Limitations

Some potentially useful individual- and hospital-level covariates were not included in the SMMIS database, which limits how much of the variation in home birth incidence can be explained by this analysis. At the individual level, notable omissions include (a) mother’s social class, (b) mother’s attitudes toward and beliefs about different places of birth, (c) a measure of the skill and experience level of the midwife(ves) assigned to women planning a home birth, and (d) the distance from the woman’s home to the nearest hospital obstetric unit. Had these variables been included in the modeling, some of the other covariates may have become less strongly associated with the measured outcomes.

At the hospital level, much more could have been concluded had the database contained information on the existence of an on-site midwife-led unit (MLU); the staffing levels; the size, structure, and experience of the midwifery team; the strength of midwifery leadership; the attitudes of senior medical professionals toward home birth; and the hospital referral status and the ease of travel within the hospital’s catchment area. Unfortunately, however, attempts to locate this information from other sources were unsuccessful.

The SMMIS data relate to the period 1988–2000, so it cannot be assumed that the same patterns apply in the present day. For example, since the publication of Maternity Matters in 2007 (Department of Health, 2007), NHS trusts have been under more pressure to offer women a real choice about place of birth, so it is possible that there is now less variation by hospital. However, there is evidence from more recent data (Healthcare Commission, 2007) to suggest that large variations by NHS trust still existed in England as recently as 2007. At the level of the individual woman, however, the results of this study support those of the previous studies (Chamberlain et al., 1997; Commission for Healthcare Audit and Inspection,
2008; Redshaw et al., 2007), which suggests that the patterns are not specific to a particular point in time.

Similarly, the SMMIS data relate to a specific region, so these results cannot be assumed to have applied across the United Kingdom or to other countries. However, the North West Thames area was geographically large and demographically diverse, so there is reason to have confidence that the patterns identified in this analysis were reasonably typical of large parts of the United Kingdom, particularly as the results echo those of studies from other countries (Anthony et al., 2005; Boucher et al., 2009).

Summary of Results, Discussions, and Conclusions

The use of multivariable regression models represents a significant step forward from previous studies that have tended to carry out single-variable analysis only. The following characteristics had an independent association with intending a home birth at booking (Model 1), after other observed characteristics were held constant: parity (higher parity women were more likely to intend a home birth), hospital providing care, mother's age (those older than 30 years at delivery were more likely to intend a home birth), ethnic group (women in the White European and Black Caribbean groups were more likely than those in other ethnic groups to intend a home birth), pregnancy risk status (women without preexisting risk factors were most likely to intend a home birth), deprivation status (women living in more affluent areas were more likely to intend a home birth), relationship status (women with partners were more likely than unpartnered women to intend a home birth), and obstetric history (women who had had a low birth weight newborn before, those who had had one or more previous miscarriages, and those who had had one or more previous terminations of pregnancy were less likely to intend a home birth).

The full results of the models looking at changes in intended place of birth (Models 2a and 2b) are not presented for reasons of space but are available on request. A change from home to hospital was most strongly predicted by having a high-risk pregnancy, and a change from hospital to home was most strongly predicted by being higher-parity and low-risk. Once again, hospital independently predicted change in both directions, even when the other covariates were held constant.

It is clear from Figure 1 that only a very small proportion of women in the SMMIS database (0.3%) changed their intended place of birth after the booking appointment. Those who intended a home birth at booking were more likely than those who intended a hospital birth at booking to change their intended place of birth. The fact that such a small proportion of women changed their intended place of birth after the booking appointment suggests that women were deciding on their place of birth at or before the booking appointment. It is unclear how much opportunity there was to revisit this decision as the pregnancy progressed. Neither NICE (NICE, 2008) nor the Care Quality Commission (Commission for Healthcare Audit and Inspection, 2008 [formerly the Healthcare Commission]) recommends that the decision be taken at the booking appointment, and in parts of the United Kingdom, which have been found to have high home-birth rates, the decision was left until much later (Leysen, 2004; Sandall, Davies, & Warwick, 2001). Maternity care providers should consider current practice in this regard and not expect women to make this important decision before they are ready.

The following characteristics had an independent association with achieving a planned home birth (Model 3) once other observed characteristics were held constant: labor complications (those experiencing complications were more likely to transfer to hospital after attempting a home birth—but not all did so, and not all transfers were due to labor complications), hospital providing care, duration of labor (women with shorter labors were more likely to achieve a planned home birth), pregnancy risk status (women with low-risk pregnancies were more likely to achieve a planned home birth), pregnancy risk status (women without preexisting risk factors were most likely to achieve a planned home birth), parity (those having their first newborn were less likely to achieve a planned home birth), ethnic group (women in the Black African and South Asian ethnic groups were less likely than those from the White European and Black Caribbean groups to achieve a planned home birth), and English language skills (those listed as needing an interpreter were less likely to achieve a planned home birth).

Women having their first newborn, those with longer labors, and those with high-risk pregnancies were more likely to be transferred to hospital in labor after an attempt at a home birth, regardless of whether they developed complications in labor. This may be an indication that, in the absence of labor complications, these groups of women were more likely to request a transfer (e.g., to obtain epidural pain relief). On the other hand, seeing through a home delivery in these circumstances may require greater confidence and experience from the attending midwife(ves), and these results may be an indication that women and midwives tended to lack the confidence and/or experience to see through a home birth in less-than-ideal circumstances. Recent research has found that UK midwives tend to feel less confident when operating in low-technology
settings, possibly because of the way they are trained and their early work experiences (Commission for Healthcare Audit and Inspection, 2008; Lavender & Chapple, 2004). If the choice agenda is to be delivered effectively, this lack of confidence will need to be addressed.

The wide variations between hospitals in terms of the number of women opting for and achieving planned home birth persisted even when the different demographic and obstetric profiles of the women using the different hospitals were taken into account. This is an indication that women in this region at this time did not have equal access to informed choice on place of birth.

Similarly, the intention at booking model (Model 1) indicated that women from Oriental, Mediterranean, Black African, and South Asian ethnic groups tended not to plan a home birth even if they were higher parity (even after Carstairs quintile and other potential confounders were held constant). This suggests that women from these ethnic groups may not have had equal access to informed choice. The findings from the actual place of birth model (Model 3) also indicated that women with limited spoken English were more likely to be transferred to hospital after attempting a planned home birth. This suggests that effective communication between the laboring woman and her birth attendant(s) is important if the woman's chances of a successful home birth are to be maximized.

This study has confirmed several findings from previous studies in the United Kingdom, United States, and Netherlands (Anthony et al., 2005; Boucher et al., 2009; Chamberlain et al., 1997; e.g., that women planning a hospital birth tend to be older, higher-parity, White, partnered, with uncomplicated pregnancies and labors, and living in relatively affluent areas). It adds to what was already known in four main ways: (a) it has identified an association between a woman's obstetric history (e.g., previous miscarriages and terminations) and her birthplace intentions, (b) it has separated the different stages of decision making, allowing us to see how the woman's characteristics are associated with her intentions at different stages of pregnancy, (c) it has confirmed that variations between hospitals exist even when the figures are adjusted for the fact that different hospitals have different user profiles, and (d) it has quantified, within a multivariable framework, for the first time in the United Kingdom, the ways in which women planning a home birth are a selected group. It is crucial for those designing studies to compare the safety of home and hospital birth to be aware of these and to ensure that their studies control adequately for potential biases. Studies should ensure that information on these characteristics is collected for all study subjects, and that the possibility of their causing bias is controlled through the use of matching or multivariable analysis techniques. If studies do not do this, doubt will be cast on observed differences between the outcomes of home and hospital birth, and the study results will be of limited use in contributing to the debate about the relative safety of different birth settings.

It is also important for clinicians and service managers to be aware of the questions raised about informed free choice of place of birth for all women and to reconsider their policies and practices in terms of (a) at what point, and on what bases, women are expected to make this important choice, (b) the provision of opportunities to revisit or reconsider this choice later in pregnancy, and (c) when and how decisions are made about transferring to hospital after attempting a home birth in the absence of clinical complications.

REFERENCES


**Contribution to Authorship.** AN was responsible for the study design and statistical analysis, with advice and guidance from AB and ZM. AN wrote the first draft of the paper; AB and ZM provided suggestions and all authors approved the final version.

**Details of Ethics Approval.** The Riverside Research Ethics Committee (REC) approved the project (REC reference number 08/H0706/42) on April 17, 2008.

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Correspondence regarding this article should be directed to Andrea Nove, MSc, Department of Social Statistics, University of Southampton, Southampton SO17 1BJ, United Kingdom. E-mail: and106@soton.ac.uk

Andrea Nove, MSc, postgraduate research student, Department of Social Statistics, University of Southampton, Southampton, United Kingdom.

Ann Berrington, PhD, reader, Department of Social Statistics, University of Southampton, Southampton, United Kingdom.

Zoe Matthews, PhD, professor, Department of Social Statistics, University of Southampton, Southampton, United Kingdom.
The Survivor Moms' Companion: Open Pilot of a Posttraumatic Stress Specific Psychoeducation Program for Pregnant Survivors of Childhood Maltreatment and Sexual Trauma

Julia S. Seng, Mickey Sperlich, Heather Rowe, Heather Cameron, Anna Harris, Sheila A. M. Rauch, and Susan A. Bell

The Survivor Moms' Companion (SMC) is a fully manualized, 10-module self-study psychoeducation program developed to address the pregnancy-specific needs of traumatic stress-affected abuse survivors. It aims to improve affect regulation, reduce interpersonal reactivity, and support posttraumatic stress disorder (PTSD) symptom management despite the presence of triggers. An open pilot enrolled "survivor moms" prior to 28 weeks gestation and they completed baseline diagnostic telephone interviews, fidelity measures, pretest and posttest, and self-report measures assessing the efficacy of the proposed mechanisms of intervention effect. Of 57 eligible women invited to participate, 32 took up the intervention, 9 completed at least the core 4 modules, and 18 completed all 10 modules. Participant scores showed improvements in anger expression, interpersonal reactivity, and PTSD symptom management, suggesting that participation in the SMC is beneficial. Results will inform the protocol for a cluster randomized trial of the SMC.

KEYWORDS: perinatal mental health; clinical trial; trauma; pregnancy; education

BACKGROUND

Posttraumatic stress disorder (PTSD) is a mental health condition that can occur in the aftermath of exposure to a traumatic event. The diagnosis of the syndrome is based on several criteria. The traumatic experience should have included a threat to life or physical integrity and a subjective experience of fear, helplessness, or horror. The person must experience at least one hallmark intrusive reexperiencing symptom, three avoidance or emotional numbing symptoms, and two autonomic hyperarousal symptoms. Duration of more than 1 month and clinically significant distress and impairment are additional criteria (American Psychiatric Association [APA], 2000). The disorder is considered to be chronic if it lasts beyond 3 months after the onset of symptoms. In U.S. studies, pregnant women meet diagnostic criteria for PTSD at twice the rate of women in the general population: 7.9% versus 4.6% (Seng, Low, Sperlich, Ronis, & Liberzon, 2009). This pattern of high rates of PTSD in pregnancy also appears in studies from the United Kingdom and Brazil (reviewed in Seng et al., 2010). Lifetime abuse trauma, including childhood maltreatment, intimate partner violence, and sexual assault, increases the risk for prenatal PTSD 12-fold (Seng et al., 2009). Prenatal PTSD has been associated with risk behaviors in pregnancy, including substance use and intimate partner violence (Morland et al., 2007; Onoye, Goebert, Morland, Matsu, & Wright, 2009), low birth weight in a high-risk sample (Rosen, Seng, Tolman, & Mallinger, 2007), and impaired postpartum mental health and bonding (Seng & Sperlich, 2008). Although data on the physical effects of PTSD on clinical obstetric and newborn outcomes remains limited, there is an increase in the number of qualitative and quantitative studies showing...
childbearing women who are survivors of abuse, with or without diagnosed PTSD, are adversely affected across multiple domains from physical (e.g., vomiting, contracting) to psychological (e.g., fear of labor), behavioral (e.g., substance use), and interpersonal (e.g., low alliance with providers; reviewed in Sperlich & Seng, 2008 and Simkin & Klaus, 2004). These experiential or "process" factors are important because they appear to mediate or to moderate clinical outcomes, especially in postpartum mood and bonding (Seng, Liberzon, Low, & Ronis, 2008). Given the importance of maternal postpartum adaptation for newborn outcomes, the mother's impairment likely increases the risk for transmission of two intergenerational patterns: abuse and psychiatric vulnerability (Yehuda et al., 2005). Thus, interventions that help survivors of traumatic stress navigate the childbearing year seem warranted for both the woman and her newborn.

Despite there being a case for treating PTSD during pregnancy, doing so would be complicated. Treatment seeking and engagement are low among people with a PTSD diagnosis (Hidalgo & Davidson, 2000; Kesseler, 2000). This is, in part, because evidence-based psychotherapies involve confronting memories of the traumatic event (Foa, Keane, Friedman, & Cohen, 2005) and yet avoidance of reminders of the trauma is typical and a diagnostic criterion for PTSD (APA, 2000). Frontline medications such as selective serotonin reuptake inhibitors (SSRIs) that are commonly prescribed for PTSD require careful benefit-cost consideration because they have been associated with adverse fetal and neonatal outcomes (Einarson & Einarson, 2005). Therefore, a tailored approach to addressing survivors' posttraumatic stress-related needs seems necessary during pregnancy. Participatory action research that includes members of the target client population in intervention development was conducted (Seng, Sparbel, Low, & Killion, 2002), and recommendations have been incorporated into a psychoeducation program known as the Survivor Moms' Companion (SMC).

THEORETICAL BASIS FOR THE INTERVENTION AND DESIGN OF THE OPEN PILOT

The SMC, (Seng & Sperlich, 2008) is designed to be consistent with the integrated primary mental health care (IPMHC) model (Blount, 1998), where desired health outcomes are achieved by addressing mental health needs that may be mediating or moderating the health outcome that is considered the focal problem. The IPMHC model specifically advocates for frontline programming, including psychoeducation, within health care settings that includes case finding for the expected 10%–15% of patients who will benefit from referral to specialty care and support to engage them in specialty treatment. The elements of the SMC have been developed consistent with this structure. The defining elements are as follows:

1. The target clinical population is women survivors of childhood maltreatment or sexual trauma, whether or not they meet diagnostic criteria for PTSD.

2. The target health outcomes are (a) improved adherence to prenatal care, (b) reduced use of substances to cope with posttraumatic stress symptoms, (c) improved experience of labor, (d) better postpartum mental health, and (e) improved early parenting outcomes in the form of (a) bonding and (b) improved sense of competence and satisfaction as a mother. These outcomes will be tested in a future Phase III clinical trial of efficacy.

3. The target mechanisms (i.e., the mental health factors we theorize are mediating or moderating the association of abuse-related posttraumatic stress with adverse outcomes and that we, thus, want to affect in order to achieve improved health outcomes) are (a) affect regulation, (b) interpersonal regulation, and (c) management of posttraumatic stress symptoms despite the presence of triggers.

The focus on these target mechanisms is based on two bodies of research that inform the content of the SMC. First, these needs have been targeted in other psychoeducation programs used prior to or as an adjunct to individual psychotherapy for abuse survivors with borderline personality disorder (e.g., dialectical behavior therapy; Linehan, 1993) and PTSD (e.g., skills training in affective and interpersonal regulation [STAIR]; Becker & Zayfert, 2001; Cloitre, Koenen, Cohen, & Han, 2002; Cloitre et al., 2010; Harned, Jackson, Comtois, & Linehan, 2010). In addition, a large body of child development knowledge points to mother–newborn dyadic regulation as both physiological and relational in nature (Schore, 2001, 2002).

Shalev, Tuval-Mashiach, and Hadar (2004) found that traumatized individuals had significant functional impairment within the domains of occupational function, self-esteem, and emotional control, and that most of those with impaired functioning also had PTSD. 

Affect dysregulation is exhibited in women with PTSD by two main types of reactions. Emotional numbing lowers the intensity of the sensations and emotions that occur as part of the posttraumatic "reexperiencing" reaction that is triggered when reminders of the trauma occur. Numbing is a nonselective mechanism that can result
in a broad decrease in emotional awareness and in low mood. Irritability with outbursts of anger are the second form of affect dysregulation related to the autonomc hyperarousal, where chronic readiness to react to threat keeps adrenaline levels high and make "fight-or-flight" reactions occur with very little provocation. Interpersonal reactivity refers to the difficulty in accurately perceiving people's intentions in communication and intense reactions to misinterpretations. Misinterpretations can lead to both interpersonal problems and negative emotions. In association with PTSD, this includes "... difficulty trusting others, low self-esteem, problems establishing boundaries, and fears of intimacy and of vulnerability in social interactions" (Bleiberg & Markowitz, 2005, p. 181). PTSD symptom management becomes particularly necessary when the affected person is confronted with triggers, especially when they can be anticipated. During the antenatal period, these can include inescapable bodily experience such as fetal movement, internal examinations, dependence on caregivers with inadequate opportunities to build trust, fear, nightmares, and preparing to meet the needs of an entirely dependent newborn. Survivors may also exhibit physical response symptoms such as sleep disturbances or concentration problems (Callahan & Borja, 2008), and these may be exacerbated by the usual sleep and cognitive symptoms of normal pregnancy.

The child development literature suggesting mother-newborn dyadic regulation is both physiological and relational in nature builds from the theory that bonding enhances positive mutual regulation (Bowlby, 1977) and leads to secure attachment for the newborn. Secure attachment is associated with good developmental and psychiatric outcomes. Conversely, if secure attachment for the newborn does not occur, it can lead to socioemotional problems in childhood and vulnerability to mood, anxiety, and personality disorders in adulthood (Cassidy & Mohr, 2001). Affect dysregulation and interpersonal reactivity are common problems for survivors of abuse, whereas detachment and anger are the two symptoms of PTSD most reported by women who are pregnant (Seng et al., 2010). Therefore, it seems important to teach pregnant women how to better regulate their own reactions and to provide them with anticipatory guidance about regulating emotions and interactions in concert with their newborns. The consistent qualitative reports indicating increased presence of triggers due to pregnancy and maternity care (summarized in Sperlich & Seng, 2008) suggest a specific need to target management of the hallmark PTSD symptoms of intrusive reexperiencing, numbing and avoidance, and hyperarousal. The SMC therefore teaches affect regulation, interpersonal regulation, and PTSD symptom management skills. All information-giving and skills-training material is focused on how these can be applied in relation to maternity care and the early days of mothering.

Research on psychoeducation to address the needs of people with PTSD is scarce. Kilpatrick, Cougle, and Resnick (2008) have called for research that "carefully specifies and evaluates different elements of psychoeducation" (p. 327) and for "greater specificity of psychoeducation content being evaluated and type of population being studied" (p. 327). To that end and to fill the gap in evidence-based interventions for pregnant women experiencing abuse-related posttraumatic stress, we conducted an open pilot. The materials and tutor training were manualized so that the intervention would be consistently applied according to specified routines and standards. The data collected was designed to meet Consolidated Standards of Reporting Trials (CONSORT) guideline standards for reporting of behavioral interventions (Boutron et al., 2008). This pilot study accomplished concurrently two phases of the four-phase clinical trial trajectory (Whitemore & Grey, 2002). Phase I assessed safety, acceptability, and feasibility and is reported in a companion paper (Sperlich et al., 2011) (see pp. 122–135 in this issue). Phase II used a single-group, pretest and posttest design as a preliminary test of the efficacy of the SMC program to produce change on the target mechanisms and to gather effect size data to plan a Phase III cluster randomized cluster trial that will be able to test the effect of the program on the aforementioned five specified perinatal outcomes. The research question for this open pilot is "Is participation in the SMC associated with improvements in scores on indicators of the target mechanisms?"

METHOD

Brief Description of the Survivor Moms’ Companion

A full description of this program is contained in the companion paper reporting the Phase I safety, acceptability, and feasibility results (see pp. 122–135 in this issue). Very briefly, the SMC self-study workbook presents 10 modules with learning objectives, information, skills practice using vignettes, and questions to assist the woman in preparing to discuss the content in a 30-minute telephone or in-person "tutoring" session conducted by a perinatal nurse or social worker. Materials are designed so the woman can personalize the information if that is tolerable for her or so she can practice skills by discussing the situations faced by characters in vignettes. The tutoring sessions were highly
structured and followed a routine. The tutors completed a training syllabus, 12 hours of training activities with the coinvestigators and consultants, and a supervised training case. Ongoing clinical supervision was provided by a psychologist experienced in working with trauma survivors.

Monitoring Delivery of the Survivor Moms’ Companion

Tutor fidelity and participant adherence were measured by mirror-image checklists completed by participant and tutor at the end of each session. Ongoing monitoring of fidelity occurred by review of the checklists. Supervision to improve fidelity was available from a psychologist experienced in manualized PTSD treatment studies. Dose was recorded as the number of modules completed with an a priori decision to consider three dose levels: (a) less than the first four modules, which cover the "core" information and skills training, (b) four to nine, or (c) all 10 modules. The module checklists also measured learning outcomes with global appraisals and with "quiz" items and gathered subjective appraisals of usefulness of the material and satisfaction with the tutor session. The woman's safety was monitored as part of the tutoring session routine by asking about relevant substance use, domestic violence, pregnancy complications, and measuring Subjective Units of Disturbance/Distress (SUD; Wolpe, 1969). Stop rules were developed in case safety assessments indicated that the program was no longer the priority (i.e., because pregnancy complications had developed) or that specialty mental health care was needed to support continued engagement because PTSD symptom levels were increasing.

Recruitment, Settings, Eligibility, and Informed Consent

Survivor moms were referred by maternity care professionals or self-referred in response to recruitment materials in perinatal service settings in two urban counties and two rural counties. Inclusion criteria were being English speaking, currently pregnant at less than 28 weeks gestational age, disclosing a history of childhood maltreatment or sexual trauma, experiencing at least some posttraumatic stress sequelae, such as some symptoms or concerns about parenting, and willingness to complete the modules and measures. Adolescents were included if they were willing to involve one parent in the informed consent process. To isolate pilot intervention effects, we excluded women currently in long-term individual psychotherapy or using psychiatric medication for PTSD at the beginning of the study. Otherwise, to be consistent with norms for practical trials of PTSD interventions (Spirazola, Blaustein, & van der Kolk, 2005), exclusion criteria were primarily oriented toward safety issues: active psychotic disorders, untreated substance abuse, past year suicide attempts, intimate partner or parent abuse not being addressed by social services, or high-risk pregnancy condition requiring perinatologist care identified prior to enrollment. Intake procedures included mailing the informed consent documents and orientation materials, following up in a telephone appointment with informed consent discussion, and explaining the program and research components as well as the stop rules. The possibility of cost incurred by the woman participating that could lead her to need psychotherapy or medication was discussed because project funding did not cover these potential expenses. Informed consent also included discussion of the Certificate of Confidentiality obtained for the study and explanation of mandatory reporting requirements. Signed consent forms were returned to researchers in a pre-addressed, postage-paid envelope. The institutional review board set the threshold for an adverse event at the level of seeking psychiatric emergency services.

Participation

Once the signed informed consent was received, a workbook binder was shipped to the participant. This binder integrated the modules with pre-addressed, postage-paid envelope containing the checklists and self-administered research measures. There was no cost to participants for using the program. Participants were reimbursed with $20 for each research component they completed.

Data Collection and Measures

Data collected during this pilot phase included four telephone interviews, completion of a set of three self-administered scales used as pretest and posttest measures, and also, as part of ongoing clinical assessment and as safety monitoring, repeated measures of PTSD symptoms with Modules 2, 4, 6, and 8. Fidelity and learning appraisal forms also were completed but are described and analyzed in the Phase I report. This report uses data from the baseline interview, pretests and posttests, and PTSD symptom measures.

Baseline psychiatric diagnostic interview data were collected via a telephone interview using established instruments to assess trauma history, PTSD, comorbidity reflective of affect dysregulation and interpersonal reactivity, pregnancy substance use, and demographics. Trauma history including violence occurring around the time of pregnancy
was assessed using the Life Stressor Checklist (LSC; Wolfe & Kimmerling, 1997) and Abuse Assessment Screen (AAS; McFarlane, Parker, Soeken, & Bullock, 1992). The LSC is considered to have the highest sensitivity to trauma among women (Cusack, Falsetti, & de Arellano, 2002) and, along with the AAS, has validity and reliability enhanced by (a) behaviorally specific questions, (b) nonlegal language, and (c) a comprehensive list of potentially traumatic events (Koss, 1983). Lifetime and current PTSD was assessed using the National Women's Study PTSD module (NWS-PTSD; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). Used in the largest epidemiological study of PTSD specific to women and validated in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) PTSD field trial were the NWS-PTSD module that had sensitivity of .99 and specificity of .79 compared with the well-established Structured Clinical Interview for DSM-IV (Kilpatrick et al., 1994). Comorbid major depression was assessed using the Composite International Diagnostic Interview (CIDI; Wittchen, 1994), a standardized interview with well-established psychometrics that is intended for use by lay interviewers. Other psychiatric symptoms associated with abuse-related PTSD were assessed using self-report scales modified for telephone format. The eight-item version of the Dissociative Experiences Scale-Taxon (DES-T; Waller, Putnam, & Carlson, 1996) was used to detect pathological dissociation. To measure somatization and interpersonal sensitivity, the Symptom Checklist subscales (SCL-90) were used (Derogatis, Lipman, & Covi, 1973). Demographic and perinatal substance use data were collected with standardized items from the Centers for Disease Control and Prevention's national surveillance epidemiological Perinatal Risk and Monitoring Survey (PRAMS; Beck et al., 2002).

Pretest and posttest measures linked with the target mechanisms were completed prior to Module 1 and after Module 10. The same four measures were used in the pilot study of the STAIR psychoeducation program (Cloitre et al., 2002). Affect regulation was assessed using the Negative Mood Regulation Scale (NMRS; Catanzaro & Mearns, 1990) and the State Trait Anger Expression Inventory (STAXI; Spielberger, 1988). The NMRS measures perceived likelihood of reducing negative mood. The developers report alpha coefficients of .86-.94 and sensitivity to change over time (Catanzaro & Mearns, 1990). The NMRS consists of 30 items and uses a 5-point scale for responses. Higher scores indicate greater confidence in the ability to manage negative effect. The STAXI-2 measures internalizing, externalizing, and control of anger (Spielberger, 1999). The STAXI Anger Expression (STAXI-AX) Index is reported as percentiles. Lower scores indicate greater confidence in ability to manage expression of angry effect. Interpersonal reactivity was assessed using the Social Adjustment Scale Self-Report (SAS-SR; Weissman & Bothwell, 1976). The SAS-SR was developed to assess patients who are depressed and who are in their child-rearing years. The instrument has a high (.74) correlation between self-report and informant report. It measures friction with people and finer aspects of interpersonal relationships and has been found to be sensitive to changes over a 4-week treatment period (Weissman & Bothwell, 1976; Weissman, Olsson, Gameroff, Feder, & Fuentes, 2001). It has 24 items with some skip patterns; t scores with lower scores indicate better relational functioning.

PTSD symptom management (i.e., lack of severe PTSD exacerbation) was repeatedly assessed with the Modified PTSD Symptom Scale Self-Report (MPSS-SR) to collect the four interim assessments after Modules 2, 4, 6, and 8. The MPSS-SR assesses PTSD symptoms, including frequency and severity, and it has been found to be sensitive to change across an intervention (Coffey, Dansky, Falsetti, Saladin, & Brady, 1998). It was developed by the same research team as the NWS-PTSD module, with very similar wording for the symptom queries, and it demonstrated 89% sensitivity compared with the NWS-PTSD module (Cusack et al., 2002; Falsetti, Resnick, Resnick, & Kilpatrick, 1993). For these reasons, it was the instrument of choice for monitoring well-being in terms of PTSD symptomatology across the SMC. We used the baseline telephone interview PTSD symptom count and the Module 8 MPSS-SR symptom count as the pretest and posttest measures for this third target mechanism.

ANALYSIS PLAN

To accomplish the Phase II aim of providing a preliminary test for the impact of the program on the target mechanisms (Whittmore & Grey, 2002), the single-group pretest to posttest data with both intention-to-treat and completers-only samples were analyzed using paired t tests. Effect sizes were determined with eta squared. Eighteen women completed all 10 modules and all of the research components (completers, n = 18). Four women dropped out of the intervention but they continued with the research and returned the NMRS posttest (n = 22). Two of these women also returned the STAXI (n = 20) and SAS-SR (n = 20) posttest forms. All of these women's data were included in the "completers" analysis. Intention-to-treat analyses were conducted with all 32 women who began the program with pretest scores carried forward for participants who dropped out of data collection.
RESULTS

Sample Description

Overall, 63 women were screened; six were ineligible, and 57 were sent with informed consent and orientation materials and of these, 11 were lost to follow up. Signed, informed consents were received from 46 women and of these, 32 women were included in intention-to-treat analyses because they completed at least one module. Nine women (28%) dropped out prior to completing the first four "core" modules. Five (16%) completed four to nine modules. A total of 18 women (56%) completed all 10 modules and comprise the sample for analysis of "completers" (see flow chart in Figure 1).

Table 1 compares sample characteristics by level of "dose" completed. The trauma history and mental health profile indicates that the program reached the target client population. Participants experienced a mean of 3.3 (SD = 1.3) of five types of child maltreatment, 1.6 (SD = 1.2) types of adult abuse, and 8.2 (SD = 3.4) other types of potentially traumatic events in their lifetime. Of the participants studied, 75% met lifetime PTSD diagnostic criteria, 35% met criteria at intake, and 50% had past year with major depression. The women were racially diverse, lived in both urban and rural areas, and most were expecting their first newborn. Most women did not have a partner and most had a high school education or less (see Table 1 for demographic information). Early dropouts were also distinct in that none were currently in psychotherapy compared with 60% of partial completers and 27% of completers. However, 89% of early dropouts had been in individual therapy in the past—a rate that did not differ from the other two groups.

Preliminary Analyses

Program fidelity and evaluation results are presented as they relate to safety, acceptability, and feasibility in the Phase I report (see pp. 122–135 in this issue). Analysis of the module checklists indicated that fidelity in implementation of the program was very high (>93% of routine elements were covered). Learning outcomes and subjective appraisal of accomplishments from participation indicated that the curriculum performed well. Analysis of safety indicated that the SMC is a safe and well-tolerated program. There were no adverse events. A stop rule was implemented with one woman who agreed that seeking domestic violence services had become a priority. SUD scores were low and did not differ between dropouts and completers. PTSD symptoms were assessed at intervals and it was found that exacerbation among dropouts occurred, but improvement was observed among completers. In the final evaluation interview, no participant expressed either distress or regret at participating. All who completed the evaluation interview indicated that they would recommend the SMC to others.

Pretest to Posttest Changes as Indicators of Efficacy

Reliability was assessed for the pretest and posttest measures in this sample. All measures demonstrated strong internal consistency with reliability coefficients ranging from a low alpha = .84 for the pretest STAXI-AX score to a high alpha = .96 for the MPSS-SR scores after Module 2.

The change scores and effect sizes for the intention-to-treat analysis and the analysis of completers are shown in Table 2.

The patterns of change for the intention-to-treat sample and the three groups formed based on dose completed are shown for each measure in Figure 2. Affect regulation considered in relation to negative mood regulation via the NMRS showed improvement but not to a statistically significant extent. Change scores for affect regulation showed statistically significant improvement on anger expression, and this change reflected a moderate effect size for both the intention-to-treat sample and the completers. Change scores for interpersonal reactivity showed statistically significant improvement, with
TABLE 1  Profile of Intention-to-Treat Sample Showing Comparison of Subgroups by “Dose” Completed

<table>
<thead>
<tr>
<th>Demographics</th>
<th>&lt;4 MODULES</th>
<th>4-9 MODULES</th>
<th>10 MODULES</th>
<th>STATISTIC</th>
<th>p VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 9)</td>
<td>(n = 5)</td>
<td>(n = 18)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>33.3 (3)</td>
<td>40.0 (2)</td>
<td>16.7 (3)</td>
<td>x² = 1.6</td>
<td>.45</td>
</tr>
<tr>
<td>European American</td>
<td>66.7 (6)</td>
<td>60.0 (3)</td>
<td>66.7 (12)</td>
<td>x² = 0.1</td>
<td>.96</td>
</tr>
<tr>
<td>Hispanic/Latina</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>3.1 (1)</td>
<td>x² = 0.8</td>
<td>.96</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>5.6 (1)</td>
<td>x² = 0.8</td>
<td>.67</td>
</tr>
<tr>
<td>Native American/Alaskan</td>
<td>11.1 (1)</td>
<td>0 (0)</td>
<td>22.2 (4)</td>
<td>x² = 1.7</td>
<td>.44</td>
</tr>
<tr>
<td>Rural</td>
<td>55.6 (5)</td>
<td>60.0 (3)</td>
<td>55.6 (10)</td>
<td>x² = 0.0</td>
<td>.98</td>
</tr>
<tr>
<td>Teen (≤20)</td>
<td>33.3 (3)</td>
<td>60.0 (3)</td>
<td>44.4 (8)</td>
<td>x² = 0.0</td>
<td>.98</td>
</tr>
<tr>
<td>Multipara</td>
<td>33.3 (3)</td>
<td>40.0 (2)</td>
<td>33.3 (5)</td>
<td>x² = 0.1</td>
<td>.96</td>
</tr>
<tr>
<td>Poverty (≤$15,000)</td>
<td>75.0 (6)</td>
<td>0 (0)</td>
<td>52.9 (9)</td>
<td>x² = 4.9</td>
<td>.09</td>
</tr>
<tr>
<td>Partnered</td>
<td>44.4 (4)</td>
<td>60.0 (3)</td>
<td>27.8 (5)</td>
<td>x² = 2.0</td>
<td>.37</td>
</tr>
<tr>
<td>Low education</td>
<td>88.9 (8)</td>
<td>80.0 (4)</td>
<td>72.2 (13)</td>
<td>x² = 1.0</td>
<td>.61</td>
</tr>
<tr>
<td>Trauma history</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child abuse (0-5)</td>
<td>3.89 (1.1)</td>
<td>2.4 (1.5)</td>
<td>3.33 (1.3)</td>
<td>F = 2.2</td>
<td>.14</td>
</tr>
<tr>
<td>Adult abuse (0-3)</td>
<td>1.22 (1.1)</td>
<td>1.6 (1.5)</td>
<td>1.0 (1.1)</td>
<td>F = 0.5</td>
<td>.60</td>
</tr>
<tr>
<td>Other trauma (0-21)</td>
<td>8.89 (4.0)</td>
<td>7.4 (2.1)</td>
<td>8.0 (3.4)</td>
<td>F = 0.4</td>
<td>.71</td>
</tr>
<tr>
<td>Diagnoses</td>
<td>% (n)</td>
<td>% (n)</td>
<td>% (n)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifetime PTSD</td>
<td>77.8 (7)</td>
<td>80.0 (4)</td>
<td>72.2 (13)</td>
<td>x² = 0.2</td>
<td>.92</td>
</tr>
<tr>
<td>Current PTSD</td>
<td>33.3 (3)</td>
<td>20.0 (1)</td>
<td>38.9 (7)</td>
<td>x² = 0.6</td>
<td>.73</td>
</tr>
<tr>
<td>Past year depression</td>
<td>55.6 (5)</td>
<td>60.0 (3)</td>
<td>44.4 (8)</td>
<td>x² = 0.5</td>
<td>.77</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissociation (0-28)</td>
<td>5.4 (5.3)</td>
<td>1.4 (2.6)</td>
<td>4.6 (6.1)</td>
<td>F = 0.9</td>
<td>.42</td>
</tr>
<tr>
<td>Somatization (0-52)</td>
<td>13.4 (10.6)</td>
<td>5.4 (3.8)</td>
<td>10.6 (7.6)</td>
<td>F = 1.5</td>
<td>.23</td>
</tr>
<tr>
<td>Interpersonal (0-40)</td>
<td>15.1 (11.6)</td>
<td>9.8 (8.5)</td>
<td>13.8 (7.2)</td>
<td>F = 0.6</td>
<td>.56</td>
</tr>
<tr>
<td>Risk behaviors</td>
<td>% (n)</td>
<td>% (n)</td>
<td>% (n)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy smoking</td>
<td>66.7 (6)</td>
<td>40.0 (2)</td>
<td>50.0 (9)</td>
<td>x² = 1.1</td>
<td>.58</td>
</tr>
<tr>
<td>Drinking .1 per week</td>
<td>11.1 (1)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>x² = 2.6</td>
<td>.27</td>
</tr>
<tr>
<td>Illicit drug use</td>
<td>11.1 (1)</td>
<td>40.0 (2)</td>
<td>5.6 (1)</td>
<td>x² = 4.3</td>
<td>.12</td>
</tr>
<tr>
<td>Post year IPV</td>
<td>11.1 (1)</td>
<td>0 (0)</td>
<td>16.7 (3)</td>
<td>x² = 1.1</td>
<td>.59</td>
</tr>
<tr>
<td>IPV this pregnancy</td>
<td>11.1 (1)</td>
<td>0 (0)</td>
<td>5.6 (1)</td>
<td>x² = 0.4</td>
<td>.54</td>
</tr>
<tr>
<td>Treatment history</td>
<td>% (n)</td>
<td>% (n)</td>
<td>% (n)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior therapy</td>
<td>88.9 (8)</td>
<td>80.0 (4)</td>
<td>72.2 (13)</td>
<td>x² = 1.0</td>
<td>.61</td>
</tr>
<tr>
<td>Prior medication</td>
<td>66.7 (6)</td>
<td>40.0 (2)</td>
<td>66.7 (12)</td>
<td>x² = 1.3</td>
<td>.53</td>
</tr>
<tr>
<td>Current therapy</td>
<td>0 (0)</td>
<td>60.0 (3)</td>
<td>26.7 (4)</td>
<td>x² = 6.4</td>
<td>.04</td>
</tr>
<tr>
<td>Current medication</td>
<td>11.1 (1)</td>
<td>20.0 (1)</td>
<td>12.5 (2)</td>
<td>x² = 0.2</td>
<td>.89</td>
</tr>
</tbody>
</table>

*Valid percents are reported for variables where participants declined to answer. Race/ethnicity sums to >32 because of reporting more than one identity.

Changes on the SAS reflecting a small effect size in the intention-to-treat analysis and a large effect size among completers. Change in PTSD symptom count was not significant in the intention-to-treat analysis. Change in PTSD symptom count was significant and had a large effect size in the analysis of completers. Figure 2's graph of PTSD pretest to posttest change shows a divergence of responses across dropout and completer groups.

Discussion

Results of this open pilot Phase II intervention study suggest that the SMC is helpful (moderate effect size impact) for managing anger expression even if the participant finishes only the first few modules. It is somewhat helpful (small effect size) for managing interpersonal reactivity with partial completion. Completers benefited from large effect size improvements in both interpersonal

...
TABLE 2  Pretest and Posttest Results, Effect Sizes, and Change Scores on Indicators of Mechanisms

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>INTENTION TO TREAT</th>
<th>COMPLETERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>NMRS, range 1–150</td>
<td>32</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>Pretest</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>106.3</td>
</tr>
<tr>
<td>SAS, t scores -45–70</td>
<td>32</td>
<td>62.3</td>
</tr>
<tr>
<td></td>
<td>Pretest</td>
<td>62.3</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>57</td>
</tr>
<tr>
<td>STAXI-AX, percentiles</td>
<td>32</td>
<td>67.6</td>
</tr>
<tr>
<td></td>
<td>Pretest</td>
<td>67.6</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>53</td>
</tr>
<tr>
<td>PTSD, range 0–17</td>
<td>32</td>
<td>5.8</td>
</tr>
<tr>
<td>Baseline count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module 8 count&lt;sup&gt;c&lt;/sup&gt;</td>
<td>32</td>
<td>4.6</td>
</tr>
</tbody>
</table>

*All paired sample t tests were statistically significant at p < 0.05 except for the NMRS.

<sup>a</sup>Effect size for paired samples t test is calculated using eta squared, $\eta^2 = n - 1$, interpreted per Cohen's guidelines: small, <.3, moderate, .3–.5, large, >.5 (Pallant, 2004).

<sup>b</sup>PTSD symptom was counted if severity score was "moderate" or more.

FIGURE 2  Graphs of change scores on indicators of target mechanisms by intention to heat and subgroups by dose completed.
reactivity and PTSD symptom management. The SMC is least helpful for improving affect regulation as it relates to negative mood. Intention-to-treat analysis may slightly underestimate the benefits of the SMC for some, as the analysis of completers shows. It is important to note that those who dropped out early may have done so because of exacerbation of their symptoms.

Given the small size of the sample, inability to control for factors such as concurrent specialty care, and unknown natural course of PTSD across gestation, we must use caution in attributing improvements to participation in the SMC until we have the results of a controlled trial. Results of this pilot suggest that clinical trial evidence is worth pursuing after some refinements and provides data to inform sample size determinations.

The findings of this pilot study point toward significant modifications that could improve the SMC. First, the lack of improvement on negative mood regulation suggests that the SMC should be combined with interventions for depression in pregnancy when participants have low mood. There is growing evidence that PTSD and major depression are comorbidities in pregnancy (Song et al., 2009); thus, greater emphasis on negative mood regulation would meet the needs of more participants. Second, the lack of improvement on PTSD symptom count among women who ceased participation prior to completion of the core four modules suggests that the first module materials and tutor process guide should be enhanced to serve as a "trial module" with specific assessment for PTSD exacerbation and structured decision making about whether psychoeducation is the right level of intervention for the woman or whether individual psychotherapy, perhaps with the SMC as an adjunct to treatment, might be more appropriate. Early dropout from the SMC was 28%, a rate consistent with other PTSD psychoeducation programs (e.g., 29% from the STAIR pilot trial; Cloitre et al., 2002). Analysis of the characteristics of the group who ceased participation showed that eight out of nine had been in individual psychotherapy in the past but were not currently in a therapeutic relationship. Women in this early dropout group who completed a PTSD symptom checklist after Module 2 appeared to demonstrate an increase in PTSD symptoms from the baseline interview. This suggests that there should be provision for women to opt out after the first module and to move to appropriate specialty treatment as their needs may be too acute to tolerate the SMC in the self-study with tutoring relationship format.

The limitations to this study are those that are inherent to open pilots. Strengths of the study include the use of measures from a similar study that are tightly related to the target mechanisms, excellent fidelity to the intervention, the diversity of women who participated in the program, and collection of comprehensive evaluation data, which indicate that partial and full completers valued the program and were able to inform us about modifications to make for the next stage of the trajectory of research on this unique intervention.

REFERENCES


Cloitre, M., Koenen, K. C., Cohen, L. R., & Han, H. (2002). Skills training in affective and interpersonal regulation


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Correspondence regarding this article should be directed to Julia S. Seng, PhD, CNM, FAAN, University of Michigan, Ann Arbor, MI. E-mail: jseng@umich.edu

Julia S. Seng, PhD, CNM, FAAN, research associate professor, University of Michigan, Ann Arbor, MI.

Mickey Sperlich, MA, CPM, research associate, University of Michigan, Ann Arbor, MI.

Heather Rowe, BSc(Hons), PhD, health scientist, University of Melbourne, Victoria, Australia.

Heather Cameron, BS, graduate student, University of Michigan, Ann Arbor, MI.

Anna Harris, medical student, University of Melbourne, Victoria, Australia.

Angela McCracken, honors student.

Sheila A. M. Rauch, PhD, assistant professor.

Susan A. Bell, MSN, FNP-BC, graduate student.
Pregnant women with history of abuse and posttraumatic stress disorder (PTSD) have increased risk of adverse mental health and childbearing outcomes. The Survivor Moms’ Companion (SMC) is a psychoeducation program designed to meet the needs of women abuse survivors affected by PTSD during the childbearing year. This article reports on the feasibility, safety, and acceptability findings of an open pilot. Participants completed 10 self-study modules and structured tutoring sessions, and completed self-report measures, including reports of tutor fidelity to the manual, repeated assessment of PTSD symptoms, Subjective Units of Disturbance (SUD) scores, and evaluation interviews. Results indicate that the intervention can be implemented within low-resource settings with high level of fidelity to the manual. Monitoring of PTSD symptom level and distress indicate that the intervention is safe. Participants report satisfaction with the format and content and appreciation for the tutoring component. The SMC appears to be feasible, safe, and acceptable.

KEYWORDS: open pilot; intervention; traumatic stress; childhood abuse; sexual abuse; childbirth education

INTRODUCTION

A growing body of research suggests that numerous physical, psychological, behavioral, and interpersonal aspects of childbearing are adversely affected when a woman who is pregnant is also a survivor of childhood maltreatment or sexual trauma, especially if she is suffering from posttraumatic stress disorder (PTSD). Extensive qualitative research and case studies since the 1990s indicate that there are numerous psychosexual triggers that result in PTSD reactions from the pregnancy itself (e.g., fetal movement, fear of birth) and from intrusive medical procedures (Beck, 2004; Menage, 1993; Seng, Low, Sperlich, Ronis, & Liberzon, 2009; Seng, Sparbel, Low, & Killion, 2002; Simkin & Klaus, 2004; Sperlich & Seng, 2008). Quantitative research affirms that posttraumatic stress is an important problem among women who are pregnant. A recent large study ($N = 1,581$ diverse nulliparas in prenatal care clinics) confirmed the findings of multiple earlier prevalence studies that one in 12 pregnant women (7.9%, 95% confidence interval 6.6%–9.3%) meet diagnostic criteria for PTSD and that the percentage of affected women is higher in low-resource settings when compared with advantaged settings (13.9% vs. 2.7%; Seng et al., 2009). Analysis of risk factors for prenatal PTSD showed that lifetime abuse trauma conveyed 12-fold risk of meeting diagnostic criteria during pregnancy (Seng et al., 2009).
Comparison of this large perinatal study with a study of a representative sample of U.S. women (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993) that used the same epidemiological PTSD diagnostic interview confirmed that women who are pregnant experience a greater burden of PTSD symptoms (intrusive reexperiencing, avoidance of reminders and emotional numbing, and autonomic hyperarousal) than women who are not pregnant. Additionally, the findings verified that these self-reports are not likely to reflect erroneous reporting of pregnancy phenomena as psychiatric symptoms (Seng et al., 2010). Therefore, addressing PTSD during pregnancy is an important part of prenatal care.

The first epidemiological exploration of the potential association of PTSD with pregnancy complications (Seng et al., 2001) found that publicly insured PTSD-diagnosed women had higher service utilization for hyperemesis gravidarum, more triage visits for preterm contractions that did not proceed to labor, and more ultrasounds related to concern about fetal growth. Since then, clinical studies have confirmed that substance use associated with history of childhood maltreatment and/or PTSD across the life span is also problematic during pregnancy (Grimstad & Schei, 1999; Leeners, Richter-Appelt, Imthurn, & Rath, 2006; Morland et al., 2007; Onyee, Goebert, Morland, Matsu, & Wright, 2009; Sperlich & Seng, 2008). Women with PTSD are also less likely to have a partner or to be satisfied with the relationship (Kruse, Low, & Seng, in press) and are more likely to be experiencing intimate partner violence (IPV) around the time of pregnancy (Sperlich & Seng, 2008). Women with PTSD and who are pregnant also are more likely to be anxious about labor, to the point of experiencing fear of childbirth or “pre-traumatic stress” (Söderquist, Wijma, Thoribert, & Wijma, 2009, p. 162). Their risk for experiencing childbirth as traumatic appears to be higher (Soet, 2002), as is their use of peritraumatic dissociation to cope with labor (i.e., dissociating or having an “out-of-body” experience because they are overwhelmed; Kennedy & MacDonald 2002; Lev-Wiesel & Daphna-Tekoah, 2010) and their risk for postpartum PTSD related to birth (Lev-Wiesel, Daphna-Tekoah, & Hallak, 2009).

Adverse pregnancy experiences coupled with a prenatal mood or anxiety disorder increase the risk for postpartum mood and anxiety disorders and can adversely affect maternal-newborn bonding. Maternal mental health and bonding impairment in the early months of parenting can compromise the newborn’s developmental and mental health outcomes. The inter-generational patterns of both childhood maltreatment and PTSD are well documented (Yehuda, Halligan, & Grossman, 2001; Zajac & Kobak, 2009). Less is known about the effects of PTSD on obstetric and neonatal outcomes, but there is some evidence that it contributes to risk for maternal infection (Lev-Wiesel, Chen, Daphna-Tekoah, & Hod, 2009), low birth weight and preterm birth (Rogal et al., 2007; Rosen, Seng, Tolman, & Mallinger, 2007), a higher number of complications during pregnancy (Möller et al., 2008), and decrements in the newborn’s neuro linguistic development (Engel, Berkowitz, Wolff, & Yehuda 2005; Enlow et al., 2009; Field et al., 2006; Laplante, Brunet, Schmitz, Ciampi, & King, 2008). Therefore, trauma-informed interventions aimed at addressing the posttraumatic sequelae of childhood maltreatment and sexual trauma have the potential to benefit both the woman and her child.

The purpose of this article is to report findings of the Phase I components (safety, feasibility, and acceptability analyses) of an open pilot of a newly developed psychoeducation program called the Survivor Moms’ Companion (SMC). The SMC is designed to address the trauma- and/or PTSD-related needs of pregnant women who are survivors of childhood maltreatment or sexual trauma. A companion report in this issue presents results of the Phase II open pilot conducted concurrently via a single-group, pretest and posttest design.

BASIS FOR THE DESIGN OF A PROGRAM

Qualitative Perinatal Literature

Numerous qualitative studies describing survivors of abuse and their experiences of childbirth and maternity care informed the content of the program (e.g., Kitzinger, 1992; Menage, 1993; Reynolds, 1997; Rose, 1992; Simkin & Klaus, 2004). A 2002 participatory action research (PAR) project specifically asked what survivors of sexual abuse who were affected by posttraumatic stress during pregnancy would have wanted at that time (Seng et al., 2002). Another large narrative study collected stories of childbirth experiences that gleaned opinions very similar to the PAR study (Sperlich & Seng, 2008). Results of the PAR study highlighted the heterogeneity of presentation of abuse survivors at the time of pregnancy but indicated that even women with prior treatment and excellent recovery reencountered trauma-specific problems, including posttraumatic stress symptoms during pregnancy, even though the symptoms may not have reached the threshold for a PTSD diagnosis. Women also wanted help with...
avoiding being "triggered" into intrusive reexperiencing of symptoms (American Psychiatric Association [APA], 2000) by medical procedures or labor anxiety, as well as help to establish good relationships with their midwife or obstetrician. Participants expressed a desire for help that took their abusive family of origin into account and that would address the challenges of parenting in the absence of positive role models and with limited extended family social support. They also expressed concerns about how the hyperarousal and emotional numbing aspects of PTSD could adversely affect their bonding and mothering behaviors. Furthermore, women in the study expressed a strong preference for a practice model that would address their needs within a maternity care setting rather than a mental health setting (e.g., Cole, Scoville, & Flynn 1996). Women emphasized their intense feeling that pregnancy was not a time to "open a can of worms" and that they were trying to "keep the [abuse and pregnancy] spheres apart," in an effort to protect the fetus from in utero exposure to traumatic stress. This suggests that, although the exposure-based treatments for PTSD (e.g., Cloitre, Koenen, Cohen, & Han, 2002) may be useful for some women if they become highly symptomatic during their pregnancy, the women participating in the PAR study indicated that a present-focused and nonpersonalized approach would be preferable.

Posttraumatic Stress Disorder and Perinatal Treatment

We could find no other studies that have reported on perinatal interventions for posttraumatic stress. As in nonpregnant populations, we expected that uptake of referral to specialty care for PTSD treatment would be low because of a general tendency to avoid reminders of the trauma. In fact, avoidance is a hallmark and a diagnostic criterion for PTSD (APA, 2000). Perinatal depression intervention research has also indicated that uptake of referral for specialty mental health treatment during pregnancy is low, even under ideal conditions in research settings (Goodman & Tyler-Viola, 2010; Kelly, Zatzick, & Anders, 2001). Psychotherapy treatments for PTSD with the best evidence base are trauma focused (Foa, Keane, Friedman, & Cohen, 2008; Institute of Medicine [IOM], 2008) and are most efficacious when there is some emotional engagement by the woman with the trauma narrative (Jaycox, Foa, & Morral, 1998). This may be stressful for the woman to manage during pregnancy, when biopsychosocial demands can already be overwhelming. Frontline medications used to treat PTSD include selective serotonin reuptake inhibitors (SSRIs), which carry risks for fetal and neonatal development, thereby decreasing their acceptability for use during pregnancy (Einarson & Einarson, 2005; Friedman & Resnick, 2009). We concluded that psychoeducation supplemented with referral to specialty care and support to engage in treatment if necessary was the kind of intervention most likely to be broadly acceptable, feasible, and safe.

Psychoeducation for Childhood Maltreatment Survivors

The specific psychological and behavioral sequelae of childhood maltreatment trauma, especially sexual abuse, including PTSD, interpersonal sensitivity, dissociation, somatization, and substance use, informed program content. Reports of pretreatment psychoeducation programs designed for survivors of child maltreatment with PTSD (e.g., Becker & Zayfert, 2001; Cloitre et al., 2002; Cloitre et al., 2010; Linehan, 1993) suggested that the appropriate target mechanisms to address are affect regulation (especially low mood and anger), interpersonal regulation, and management of PTSD symptoms despite the presence of triggers. The SMC program, therefore, focuses on specific skill development in these psychological domains as a means to improve perinatal outcomes, including improved adherence to prenatal care, reduced substance use, improved labor experience, better postpartum mental health, and improved parenting outcomes, including mother–newborn bonding.

OVERVIEW OF THE SURVIVOR MOMS' COMPANION AND CLINICAL TRIAL TARGETS

The SMC is a fully manualized psychoeducation program created to address the needs of "survivor moms" during pregnancy (Seng & Sperlich, 2008). It is a population-based, rather than a diagnosis-based program. That is to say that women may self-refer based on knowing their own childhood maltreatment or sexual trauma history, without needing to know if they have PTSD. The program is designed to address issues and concerns beyond PTSD symptoms themselves (Table 1), and so to be useful even to women who do not meet diagnostic criteria.

Psychoeducation is designed to focus on information giving, skills training, and addressing the woman's
emotional support needs. The interactions are patterned on teacher–student rather than therapist–client roles. The manual is a curriculum written at the secondary school level with a separate low-literacy version. The curriculum has 10 modules, each with two components. The woman first reads the self-study module and then problem-solves in relation to vignettes that describe women who are survivors of abuse and who present with various issues related to PTSD symptomatology during pregnancy. Then she participates in a 30-minute session with a trained tutor either in person or by telephone. In this tutoring session, the woman talks about her work on the module to a responsive but primarily listening tutor. Tutors are perinatal nurses, social workers, or health educators who have undergone a standardized training program. The tutor's goal is to reinforce the woman's learning and skills practice while also monitoring her well-being in terms of both pregnancy health and posttraumatic stress. The SMC has, as secondary goals, to conduct case finding for women who are severely impaired and to promote treatment engagement when referral to specialty care is requested or indicated. Such specialty care could include substance use treatment, IPV services, or individual psychotherapy or psychopharmacology. The target client population is currently pregnant women who self-identify as survivors of childhood abuse or sexual trauma or who are identified and referred by maternity care providers or maternal support service social workers. The target mechanisms, which are tested in the companion open pilot report, are improved affect regulation, decreased interpersonal reactivity, and management (i.e., no worsening) of PTSD symptoms, despite the presence of perinatal triggers. The target outcomes await testing in a future clinical trial with a large sample, but these include improved perinatal health behaviors and outcomes, improved postpartum mental health, and improved bonding with the newborn.

METHODS

Description of the Manualized Program

The Materials

The SMC program manual was provided as a workbook in hard copy to each woman, containing 10 self-study modules, and guided preparation for the structured telephone or face-to-face tutoring sessions. The self-study modules start routinely with an orienting set of questions, learning objectives, and written information on the topic, followed by vignettes that structure skills practice via simulated problem solving based on characters created for the program. The modules end with questions to help the woman decide the focus for her tutoring session. The first four modules are the "core" because they provide an overview of how trauma and PTSD can affect childbearing and early mothering (#1) and go on to teach "reaction skills" to manage PTSD in the aftermath of being triggered (#2), "soothing skills" to improve affect dysregulation (#3), and "interpreting skills" to improve interpersonal reactivity (#4). Modules #5–#10 provide information on perinatal topics (listed in Table 1), and they reinforce the skills with additional vignette-based practice.

Tutoring Sessions

In the 30-minute tutoring session, the tutor facilitates discussion of the information, reinforces the skills, and monitors for distress or need for referral to specialty services. The session begins with a brief assessment of the woman's pregnancy-specific well-being, with attention to her current safety status if intake assessment revealed that she is in an abusive relationship. The woman is then able to select the aspects of the module she most wants to focus on with the tutor, and the interaction proceeds with the overall objective of providing emotional support as well as feedback to clarify her learning and reinforce skills. During the session, ratings of Subjective Units of Disturbance/Distress (SUD scores; Wolpe, 1969) are recorded by the tutor for the beginning, peak, and at the end of the session. The tutor uses these scores to inform choices regarding plans for the following session or whether any further help should be sought by referral. This monitoring is central to the evaluation of the intervention's safety for use with pregnant women.

Survivor Moms' Companion Tutors

Tutors for this pilot were social workers with master of social work degrees, who completed a training syllabus

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Overview of Module Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Introduction to Trauma and Childbearing</td>
</tr>
<tr>
<td>#2</td>
<td>Posttraumatic Stress Reactions and PTSD</td>
</tr>
<tr>
<td>#3</td>
<td>Soothing Intense Emotions</td>
</tr>
<tr>
<td>#4</td>
<td>Improving Interpersonal Connecting</td>
</tr>
<tr>
<td>#5</td>
<td>Meeting Your Needs During and After Pregnancy</td>
</tr>
<tr>
<td>#6</td>
<td>Preparing for Labor and Birth</td>
</tr>
<tr>
<td>#7</td>
<td>Families of Origin and Social Support</td>
</tr>
<tr>
<td>#8</td>
<td>Worries About Parenting</td>
</tr>
<tr>
<td>#9</td>
<td>Postpartum Needs</td>
</tr>
<tr>
<td>#10</td>
<td>Attachment and Posttraumatic Growth</td>
</tr>
</tbody>
</table>
and 12 hours of workshop training with the coinvestigators and two psychologist consultants on PTSD, psychoeducation, aims of the study, module content, tutor role, implementation and fidelity, and supervision and self-care. They completed a supervised training case. They received on-going clinical supervision by a psychotherapist consultant experienced in treating trauma survivors. They received fidelity supervision based on on-going monitoring of the checklist fidelity reports that detailed adherence to the manual. Remediation for drift from the manual content was available from a consultant with extensive experience implementing manualized psychotherapy intervention studies.

Recruitment

Recruitment, participation, and orientation to the SMC are described in the companion article in detail (see pp. 111-121 in this issue). This study was approved by a local institutional review board, and all participants completed an informed consent process, which included orientation to the program, discussion to answer all of their questions, and signing the informed consent document.

Data Collection

Overall data collection and psychiatric measurement is described in detail in the companion report (see pp. 111-121 in this issue). Because this pilot prepares for a future clinical trial where fidelity to the manual will be essential to measure, data collection included checklists to report adherence to the routines. These checklists were completed at the end of the tutoring session by both the tutor and participants, which included verification that all manualized elements of the program were completed (fidelity), and also assessed other issues of feasibility, such as time spent in the session. We also collected data appraising the level of mastery and satisfaction of the content of each learning objective, “quiz” items to test knowledge related to each objective, and global ratings of satisfaction with the tutor–participant interaction and the module content’s usefulness. Measurements directly related to evaluation of safety included use of SUD ratings on 10-point scale (Wolpe, 1969) and the Modified PTSD Symptom Scale Self-Report (MPSS-SR; Cusack, Falsetti, & de Arellano, 2002; Falsetti, Resnick, Resnick, & Kilpatrick, 1993). The tutor assessed the participant’s SUD scores in relation to the self-study time and tutor session, including a rating of “peak” SUD for the session. The MPSS-SR was used to assess PTSD symptoms after four of the modules, to monitor client well-being, and to analyze for an overall safety analysis. Fixed-response and open-ended items from the evaluation interview conducted by a research staff member (not the tutor) provide ratings of overall distress and regret at participating and provide qualitative feedback about the program.

Analysis Plan

To achieve the Phase I aim of examining feasibility, acceptability, and safety (Whittemore & Green, 2002), we analyze recruitment and sample composition to verify that we are reaching the target clients and that the intervention can be delivered. We examine levels of fidelity, completion and dropout, achievement of learning objectives and knowledge (quiz) scores, as well as satisfaction with the tutor interactions and the materials. We examine safety by focusing on SUD scores and PTSD symptom trajectory. We also examine stop rule use and adverse events (seeking psychiatric emergency services). We describe evaluation data including distress and regret ratings and women’s open-ended feedback about the program. Statistical analyses for this aim include descriptive statistics, some bivariate tests (e.g., comparing dropouts and completers), and a general linear model of the repeated measures of PTSD symptom level.

RESULTS

Feasibility

Referral Versus Standard Offering of the Program

A total of 63 women contacted the project office to inquire about participating in the 24-month recruitment period. This included eight women who were referred to the program by physicians practicing in rural, less-populated areas; five, by physicians practicing in more highly populated urban areas; nine, by nurse-midwives in more highly populated urban areas; nine, by nurse-midwives in more highly populated urban areas; three, by social workers in nonstudy site clinics who heard about the study at a conference; 19 women from both urban and rural settings who self-referred; and four, whose means of finding the study was not noted. A total of 15 women were enrolled who were from the rural setting where the maternal support service social worker offered the intervention to all clients.
who disclosed the relevant trauma history and referred them to the study team for research participation. We conclude that the second model (standard offering of the program to women disclosing child maltreatment or sexual trauma by the social worker involved in their care) is more successful at reaching the target population than provider referral or self-referral alone. Non-disclosure to professionals is common enough that the self-referral option also resulted in women accessing the intervention. Half of women who contacted the project were eligible, consented to participate, and completed a minimum of one module. These are the women who comprise the "intention-to-treat" sample ($N = 32$).

**Reaching the Target Clients**

The demographic, trauma history, mental health, risk behaviors and exposures, and treatment history profile of the sample were determined via the baseline research interview. This profile (Table 2) of the intention-to-treat sample indicates that the intervention was taken up by African Americans and Native Americans at higher than representative rates. The sample also was more socioeconomically disadvantaged and less likely to be partnered than typical prenatal samples. Only one participant did not have a childhood maltreatment history. Of the participants, 60% had sexual trauma in their background. Three quarters had a lifetime history of PTSD, with half of those currently meeting diagnostic criteria. Half of the sample met depression diagnostic criteria. More than three quarters of the sample had previous treatment, but we have no data as to the nature of the treatment they had received. Current smoking, illicit drug use, and IPV rates suggest that they are exposed to risks for adverse perinatal outcomes. Thus, the SMC is reaching high-need target clients who are enrolling in prenatal PTSD-specific psychoeducation despite having sought individual treatment in the past.

**Logistics of Implementation**

Analysis of the module checklist data indicates that the average time spent in the tutor session was approximately 20 minutes. This is within the 30-minute time limit specified by the manual and is practical to implement in low resource settings. Two tutors conducted all sessions. Neither site nor education level (less than high school vs. at least secondary education) were associated with any significant differences in participant ratings on any learning or satisfaction measures.

**TABLE 2 Profile of Enrolled Participants**

<table>
<thead>
<tr>
<th>ITT SAMPLE ($N = 32$)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographics</strong></td>
</tr>
<tr>
<td>African American</td>
</tr>
<tr>
<td>European American</td>
</tr>
<tr>
<td>Hispanic/Latina</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
</tr>
<tr>
<td>Native American/Alaskan</td>
</tr>
<tr>
<td>Rural</td>
</tr>
<tr>
<td>Teen (≤20)</td>
</tr>
<tr>
<td>Multipara</td>
</tr>
<tr>
<td>Poverty ($\geq$ 15,000)</td>
</tr>
<tr>
<td>Partnered</td>
</tr>
<tr>
<td>Low education</td>
</tr>
<tr>
<td><strong>Trauma history</strong> Mean (SD)</td>
</tr>
<tr>
<td>Child abuse (0–5)</td>
</tr>
<tr>
<td>Adult abuse (0–3)</td>
</tr>
<tr>
<td>Other trauma (0–21)</td>
</tr>
<tr>
<td><strong>Diagnoses</strong></td>
</tr>
<tr>
<td>Lifetime PTSD</td>
</tr>
<tr>
<td>Current PTSD</td>
</tr>
<tr>
<td>Past year depression</td>
</tr>
<tr>
<td><strong>Symptoms</strong> Mean (SD)</td>
</tr>
<tr>
<td>Dissociation (0–28)</td>
</tr>
<tr>
<td>Somatization (0–52)</td>
</tr>
<tr>
<td>Interpersonal (0–40)</td>
</tr>
<tr>
<td><strong>Risk behaviors</strong></td>
</tr>
<tr>
<td>Pregnancy smoking</td>
</tr>
<tr>
<td>Drinking ≥1 per week</td>
</tr>
<tr>
<td>Illicit drug use</td>
</tr>
<tr>
<td>Past year IPV</td>
</tr>
<tr>
<td>IPV this pregnancy</td>
</tr>
<tr>
<td><strong>Treatment history</strong></td>
</tr>
<tr>
<td>Prior therapy</td>
</tr>
<tr>
<td>Prior medication</td>
</tr>
<tr>
<td>Current therapy</td>
</tr>
<tr>
<td>Current medication</td>
</tr>
</tbody>
</table>

Note. IPV = intimate partner violence; ITT = intention to treat.

*Valid percent are reported for variables where participants declined to answer. *Race/ethnicity sums to >32 because of reporting more than one identity.

**Fidelity**

Fidelity was scored by both the participant and tutor for each session using "mirror-image" checklists for each element based on the tutor manual process guide. We compared participant and tutor reporting for each module using inter-rater agreement testing. Inter-rater agreement was 94.1% ($SD = 4.1\%$) for the pilot overall. Because the tutor forms had slightly less missing data, we use those for the fidelity assessment. Tutor fidelity ranged from 93% ($SD = 15.3; n = 31$ returned forms) for Module 1 to 100% ($SD = 0; n = 15$ returned forms) for Module 10.
Completion and Dropout Rates and Reasons

Just more than half of participants completed all 10 modules (n = 18, 56.3%) and are analyzed as "completers." Nine women (28.1%) dropped out prior to completing the first four modules, which we consider to be the "core" dose because these contain the essential information and skills training related to the mechanisms. Five women (15.6%) completed between six and nine modules, so we consider them to have received the "core" but not the "full" dose.

To assess whether there are specific characteristics associated with discontinuing the SMC prior to finishing the core four modules, we compared those at each of the three a priori dose levels (see Table 3).

Chi-square or analysis of variance (ANOVA) tests indicate that only four factors are associated with dose at a trend level (p < .10). Dropouts were more likely to be living in poverty (χ² = 0.08, df = 2, p = .9). None of the dropouts was currently in psychotherapy (χ² = 6.4, df = 2, p = .04). They gave slightly lower mean ratings for satisfaction with the tutor interactions (8.6 out of 10, SD = 1.7 vs. 9.4, SD = 1; F = 3.8, p = .04) and with the materials (8, SD = 2.8 vs. 8.8, SD = 1.6; F = 3.2, p = .06). Although the difference did not reach statistical significance, those who dropped out early had mean SUD ratings for modules completed of 3.3 (SD = 3.7) compared with 2 (SD = 2.4) in the intention to treat sample and 1.5 (SD = 1.5) among completers (F = 2.3, df = 31, p = .1). This difference may be clinically significant, especially given that eight of the nine had previous psychotherapy, which can be an indicator of higher levels of distress or impairment. None had the support of a therapist at the time they took the intervention. Additional those who dropped out after the first four modules but prior to completion had the lowest SUDs, a mean of 1 on a 0–10 scale. This may indicate low emotional engagement, low need for the SMC, or having their needs met with fewer than 10 modules.

Achieving the Learning Objectives

In addition to the number of modules completed as an indicator of "dose," success was also assessed by participants' understanding of the curriculum's learning outcomes via subjective appraisal and by quiz items. None had skipped sections for the subjective appraisal reasons that they were "not important" (not salient). Tutors rated their participants' achievement from a low mean of 71.5% (SD = 21.7; n = 22 returned forms) on Module 4 objectives (interpersonal reactivity focus) to a high mean of 89.1% (SD = 18.2%; n = 16 returned forms) on Module 7 objectives (family of origin and social support focus). The overall mean achievement appraisal given by the tutor was lower in the intention to treat sample (49.9%, SD = 32.8) than among the completers (78.3%, SD = 14.1). Participants' self-ratings of their achievement were much higher, ranging from 79.6% on Module 6 to 99% on Module 9. The quiz questions assessing learning outcomes for each module were part of the checklist. Mean "quiz" scores were 73.8% (SD = 22.3%) overall for the intention to treat sample and 84.5% (SD = 9.9%) for completers.

Referral and Treatment Engagement

At the baseline interview, 22% (n = 7) of the sample were already engaged in individual psychotherapy. Tutors made referrals according to the participants' desires, including five referrals to support groups for sexual abuse survivors that were available in the metropolitan site and nine referrals to individual psychotherapy. The number who pursued the referrals was not assessed.

### Table 3 Assessment of Subjective Factors That Might Influence Dropout

<table>
<thead>
<tr>
<th>Checklist ratings</th>
<th>Total ITT Sample (N = 32)</th>
<th>&lt;4 Modules (n = 9)</th>
<th>4-9 Modules (n = 9)</th>
<th>10 Modules (n = 18)</th>
<th>Statistic</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>How did tutor session go? (1–10)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>F = 3.8</td>
<td>.04</td>
</tr>
<tr>
<td>How useful was the module? (1–10)</td>
<td>8.4 (1.6)</td>
<td>8.0 (1.7)</td>
<td>8.0 (1.7)</td>
<td>9.4 (3.1)</td>
<td>F = 3.2</td>
<td>.06</td>
</tr>
<tr>
<td>Mean peak SUD (0–10)</td>
<td>8.8 (1.6)</td>
<td>8.0 (2.8)</td>
<td>8.0 (1.7)</td>
<td>9.4 (3.6)</td>
<td>F = 2.3</td>
<td>.11</td>
</tr>
<tr>
<td>Evaluation ratings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>χ² = 3.7</td>
<td>.16</td>
</tr>
<tr>
<td>Participating was at all distressing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regrets participating</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. ITT = intention to treat.
This information suggests that the SMC was a stand-alone intervention for only some of the participants. For some, it served a treatment engagement purpose whereas for others, it was potentially an adjunct to psychotherapy. Long-term individual psychotherapy was an exclusion criterion for participation (because of its potential threat to internal validity of the Phase II tests), so the therapy in use by these participants is probably short term.

Safety

There were no adverse events and no case where a stop rule needed to be implemented. From the routine assessment of safety and well-being conducted at the start of tutoring sessions, one participant agreed with her tutor that a "semistop" was appropriate because of an escalation in IPV and her wish to engage in domestic violence services. A semistop was defined as continuing the program with the support of staff in the domestic violence service as desired.

Because the safety of PTSD interventions in pregnancy has not been well documented, we wanted to provide multiple indicators of distress and symptomatology. Figure 1 depicts box plots of the SUD ratings across the modules, showing the interquartile ranges, standard deviations, and outliers. There is a strong floor effect, suggesting that the psychoeducation format is not inducing distress in most users, but the range of ratings as high as "5" during five of the tutoring sessions and "8" during one suggests that some users are experiencing the emotional engagement associated with improvements in symptoms (e.g., Jaycox et al., 1998).

The general linear model (repeated measures univariate ANOVA) used to assess PTSD symptom levels (Figure 2) also indicates that the SMC is safe. We modeled the mean MPSS-SR scores over the 4-time points (Modules 2, 4, 6, and 8), comparing women who met PTSD diagnostic criteria at baseline and those

![Figure 1](image_url)

**FIGURE 1** Box plot of tutor recordings of the women's stated peak Subjective Units of Disturbance ratings across all 10 modules with outliers (both of whom were completers).
Mean MPSS scores across the intervention: Intention to Treat

![Graph showing Mean MPSS scores across the intervention: Intention to Treat.](image)

**FIGURE 2** Safety considered in terms of PTSD Symptom Frequency and Severity (MPSS-SR total score) from Module 2 through Module 8.

who did not. PTSD scores decreased significantly regardless of diagnostic status. The effect size was large, and the observed power was 100% for the effect of the progress across the modules, but less (25%–50%) for the effect of diagnosis at baseline. This affirms the decision to design the SMC for the survivor mom population rather than reserve it for women meeting PTSD diagnostic criteria. This result also affirms that exposure to the SMC does not worsen symptoms in the sample as a whole and, thus, would appear not to exacerbate PTSD-related psychological stress. It also suggests that, for most participants, the SMC meets the goal of preventing the worsening of PTSD symptoms despite the presence of triggers. For early dropouts, the situation may differ. This group of nine women provided very little posttest data, but scores from the few who continued in the research after dropping out of the program indicate that scores deteriorated. These women differed from those who completed more of the program in that eight of the nine had sought mental health treatment in the past, which may be a marker of clinical levels of distress and impairment, yet none was using treatment concurrently with the SMC. Therefore, they may have chosen to drop out because they perceived engagement in the SMC to be worsening their symptoms beyond what they could manage without additional support.

We also assessed safety in the evaluation interview using items commonly included in pilot research on trauma and PTSD since triggering reminders of the trauma and thereby causing emotional distress is a potential risk and ethical concern. These items ask specifically how much distress participants experienced and whether they regretted participating (Griffin, Resick, Waldrop,
Half (57.1%, n = 12) of those who completed the evaluation stated that they experienced no distress at all. No participant expressed regret for being in the study. Every woman who completed the evaluation (n = 21) said that she would recommend the SMC to a friend and said she would recommend the SMC to her doctor or midwife for use with other patients.

Acceptability

Checklist Ratings

As Table 3 showed, participant ratings of satisfaction with the tutors (mean of 9.4 out of 10, SD = 1) and modules (mean of 8.8 out of 10, SD = 1.6) was high overall and only slightly lower for early dropouts.

Qualitative Evaluation

The qualitative evaluation asked an open-ended question to elicit feedback. Table 4 presents exemplar quotes showing a range of reasons for reported satisfaction with the SMC. Overall, satisfaction was high. The amount of written material arriving all at once was a barrier for some. Several women requested additional materials focused on parenting beyond the newborn period.

Several also suggested use of a group format or social events where they could meet other survivor moms, presumably to reduce the sense of stigma and develop social support.

DISCUSSION

Overall, the Phase I pilot of the SMC psychoeducation program demonstrates an excellent profile in terms of feasibility, safety, and acceptability. These findings, combined with the improvements shown in the concurrent Phase II open pilot, suggest that further research is warranted to refine the program and proceed to a clinical trial to assess its efficacy in relation to perinatal outcomes.

Quantitative acceptability data indicate high levels of satisfaction with the SMC materials and with the combined self-study and tutoring format. Qualitative evaluation data affirm these ratings and provide a broad range of reasons for the participants' satisfaction.

Process measures indicate that fidelity to the manual was very high and that satisfaction with the tutoring session and achievement of learning objectives were accomplished within less than the 30-minute time.
limit set for the session. This suggests that implementation in low-resource settings is feasible. Uptake of the program by a higher proportion of the perinatal population occurred when it was offered to trauma-disclosing clients by the setting's staff social worker as a routine part of care. Anecdotal reports by referring professionals suggest that the requirement for a woman to initiate contact with a tutor she had not met was a barrier to participation. However, nearly one-third of all women who inquired about the SMC were self-referring in response to flyers and brochures, presumably without disclosing their history to professionals. Thus, routine offering by staff trained as tutors and self-referral to nonagency tutors are both important routes to connecting the target population to the program.

This is the first report of a psychoeducation program focusing on the traumatic experiences of childhood maltreatment and sexual trauma and their mental health sequelae designed for pregnant women. Because there is some evidence that PTSD and its biological concomitants (e.g., Yehuda et al., 2001) may cause adverse outcomes, including preterm birth, it was particularly important to assess the safety profile of the program. Using three different approaches (SUD monitoring, PTSD symptom monitoring, reports of distress and regret in the evaluation), we found no reasons to be concerned about safety for completers. Early dropouts may differ, however, in that they may experience increased PTSD at the start of the program and opt to stop participating rather than discuss this reaction with the tutor and receive referral or support. An implication of this observation is that we should modify the first module to explicitly offer it as a “sample” to “try on” and assess with the woman systematically whether she would like to (a) continue with the standard program, (b) stop because she is not interested or because it is too stressful, or (c) consider using the program within the context of an individual psychotherapy or as an adjunct to therapy. Another implication derives from the fact that early dropouts were 28% of those who began the program, suggesting that the SMC may be a “frontline” or “stand-alone” program for only 75%–80% of women, and so referral resources should be in place in sites that adopt this program.

Ad hoc feedback and inquiries about the program suggest several areas for future development. Needs for additional content to supplement the main program emerged, including modules to assist women whose level of substance use falls short of abuse, women with female genital cutting, including infibulations, those with prior medical trauma, and the needs of partners, especially “survivor dads.” Some potential participants could not be approached, and some inquiring women were ineligible because they were not English speaking. Care providers for new immigrant, refugee, and indigenous women have advocated for adapted versions for their clients who come from contexts with high levels of recent or long-standing cultural trauma that affect their experience of Western birth practices and their adaptation to mothering. Although feedback was positive on the individual version, some women explicitly expressed desire to have contact with other survivors to share their concern and to reduce isolation and their sense of stigma. Future research should consider offering the program in group formats or offering peer-to-peer linkages with assistance from other survivors. The SMC was designed for first-time mothers, but multiparous women requested participation, and they indicated a need for a module addressing the additional triggers they experience when a previous birth was traumatic or when they have previously experienced perinatal loss. These more experienced mothers also strongly expressed desire for the intervention to continue postpartum to address more long-term mothering problems. Social workers referring to the SMC who were newborn mental health specialists and child protection professionals expressed desire for a mothering version for high-risk mothers.

The limitations of this Phase I pilot are typical of such studies. The sample is small, and we conducted numerous bivariate tests to compare across dose groups without correction for the increased risk of Type I error. Thus, we risk noting differences that may not be confirmed in larger future studies. Inference is also limited by the lack of data from dropouts who also ceased participation in the research, about eligible women who never made contact with the project, and about those who inquired but did not enroll. The rate of women who dropped prior to completing the “core modules” was 28%, a rate similar to other psychoeducation program pilots for this population (e.g., 29% in Cloitre et al., 2002). Another five women (18%) dropped out prior to completing the last module, and we do not know if this is because of the challenges of late pregnancy, to giving birth, or for other reasons that might include satisfaction with what they had accomplished or loss of interest.

There are numerous strengths to note, as well. The intention-to-treat sample size (N = 32) compares favorably with other Phase I studies. This pilot was fully manuals and implemented with a high level of fidelity. Process measures were completed with “mirror image” forms by both the tutor and the participant with excellent interrater reliability. The PTSD symptom measure
was an established instrument. Collection of repeated measures of multiple indicators of safety (SUDs, PTSD symptom counts) and acceptability (learning outcomes, satisfaction) increases confidence in the conclusions.

Together with the findings from the Phase II report of this pilot intervention study, we conclude that the SMC shows promise as an intervention to address the perinatal needs of pregnant abused survivors affected by PTSD. Additional research is warranted to put its efficacy to the test.

REFERENCES


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Correspondence regarding this article should be directed to Julia S. Seng, PhD, CNM, FAAN, University of Michigan, Ann Arbor, MI. E-mail: jseng@umich.edu

Mickey Sperlich, MA, CPM, research associate, University of Michigan, Ann Arbor, MI.

Julia S. Seng, PhD, CNM, FAAN, research associate professor, University of Michigan, Ann Arbor, MI.

Heather Rowe, BSc(Hons), PhD, health scientist, University of Melbourne, Victoria, Australia.

Heather Cameron, BS, graduate student, University of Michigan, Ann Arbor, MI.

Anna Harris, medical student, University of Melbourne, Victoria, Australia.

Angela McCracken, honors student.

Sheila A. M. Rauch, PhD, assistant professor.

Susan A. Bell, MSN, FNP-BC, graduate student.
International Confederation of Midwives
Education Standing Committee: Joint Expertise
for Midwifery Education

Ans Luyben, Mary Barger, and Susan McDonald

The Education Standing Committee (ESC) supports the International Confederation of Midwives (ICM) in defining and safeguarding its educational requirements at global, regional, and national levels. Begun in 2005, it was reestablished and expanded at the 28th ICM Triennial Congress in Glasgow, Scotland, 2008. Currently, the committee consist of three cochairs: Prof. Dr. Mary Barger (Americas/Africa), Prof. Dr. Susan McDonald (Asia Pacific), and Prof. Dr. Ans Luyben (Europe), and 26 other members covering the ICM regions.

ESC member work takes place within several categories, including strategic planning, program planning, networking, initial midwifery education/higher education, ICM competencies and standards of practice and education, practice and placements, development and transfer/exchange of students, and safe motherhood educational issues. Midwifery educators communicate through the Education Network (midwifery-reprohealtheducation@jiscmail.ac.uk).

Current activities include contributing to the development of the Global Standards for Midwifery Education, contributing to the World Health Organization (WHO) Multidisciplinary Patient Safety Curriculum, and preparing workshops for the 2011 ICM conference in Durban, South Africa.

GLOBAL STANDARDS FOR MIDWIFERY EDUCATION

In 2008, after the requests from multiple stakeholders, ICM commissioned a task force (TF) led by Dr. Joyce Thompson and Prof. Angela Sawyer with the process of developing Global Standards for Midwifery Education. Members of this TF included Ans Luyben, Atf Gherissi, and Mary Higgins from the ESC. The TF prepared for this task not only by seeking advice and counsel from various sources including the TF but also by reviewing (a) the literature on midwifery education, (b) ICM core documents and position statements, and (c) existing standards for health professional education.

Throughout the process of development, the TF agreed that the standards would be the minimum expected for a quality midwifery program with an emphasis on competency-based education rather than academic degrees. Key details of the standards include (a) midwifery leadership of education program, (b) entry level of students, (c) qualification of teachers and mentors in school and practice, (d) minimum length of education program, (e) philosophy of midwifery practice and teaching, and (f) resources and facilities. Following their development, an electronically conducted modified Delphi survey process was used to gain consensus on the standards. One internal round and two external rounds were conducted. Each round expanded the diversity of participants that included midwifery educators, nurses, obstetricians, WHO, and Swedish International Development Cooperation Agency (SIDA). The results of each round were discussed with the members of the
The members of the ESC group on Competencies and Standards (lead person: Dr. Michelle Butler) contributed in creating the accompanying guidelines.

The final draft of the Global Standards for Midwifery Education, including a preface, a glossary, and accompanying guidelines, has currently been presented by the TF to the ICM board. The standards constitute an ideal framework for developing, improving, structuring, and accrediting programs for midwifery education. They will help in setting benchmarks for the preparation of fully qualified midwife based on global norms, and, thus, strengthen and support midwifery—perhaps, particularly, in low- and medium-resource countries. During the 2011 ICM conference in Durban, South Africa, workshops will provide opportunities to discuss implementation.

WORLD HEALTH ORGANIZATION
MULTIDISCIPLINARY PATIENT SAFETY CURRICULUM

The WHO Patient Safety Curriculum Guide was originally developed and tested for medical students. However, it was recognized that all health professions students need to be taught about patient safety during their education and training. WHO assembled a multidisciplinary group from the professions of midwifery, nursing, dentistry, and pharmacy, as well as medicine, to revise the curriculum guide. Midwife members of the ESC committee participated in sending revisions to the 11 topic areas and the teachers guide. They also contributed patient safety case studies involving obstetrical and midwifery issues. In fall 2010, ESC Cochair Mary Barger represented ICM at the WHO meeting in Paris at which all the professional representatives provided input into proposed revisions. It is anticipated that the revised guide will be made available electronically as a resource for all health professions sometime in mid-2011. This project was a concrete example of how interdisciplinary education can move from being a theoretical possibility to a concrete reality.

FUTURE ACTIVITIES

The logical next step for the ESC is to help ICM members implement both the Global Standards for Midwifery Education and the midwifery essential competencies that underlie in all countries and regions. This process will certainly require the efforts of many individuals beyond the ESC but the ESC plans to be a catalyst. The ESC is also working to build an online community of midwifery educators. As this resource takes shape, midwifery educators will be able to share curriculum and take advantage of already developed, reusable learning objects, teaching resources, and proven successful teaching strategies.

Correspondence regarding this article should be directed to Ans Luyben, RM, PGDE, PhD, Research & Development/Consultancy Midwifery Department of Health, Bern University of Applied Sciences BFH, Bern, Switzerland. E-mail: ans.luyben@bfh.ch

Ans Luyben, RM, PGDE, PhD, professor of midwifery, head of Research & Development/Consultancy Midwifery, Department of Health, Bern University of Applied Sciences BFH, Bern, Switzerland.

Mary Barger, CNM, MPH, PhD, assistant professor, Department of the Family Health Care Nursing, University of San Francisco, San Francisco, CA.

Susan McDonald, RN, RM, CHN, BApplSc, PhD, FACM, professor of midwifery, head of the La Trobe University/Mercy Midwifery Professorial Unit, Mercy Hospital for Women, Heidelberg, Melbourne, Australia.

Jennifer H. Requejo, Kadi Toure, Afif Gherissi, and Andres de Francisco

Two thirds of the period for achieving the Millennium Development Goals (MDGs) 4 and 5 (reduce child mortality and improve maternal health, respectively) agreed upon by 189 governments in 2000 has passed and only 5 years remain. Accelerated efforts are urgently needed in countries where mortality levels remain high including many countries in Africa and Middle East. Progress is insufficient in the region for reaching MDG 4 and the lifetime risk of a maternal death is unacceptably high at 1 in 140 in comparison with 1 in 8,000 in industrialized nations (United Nations Children’s Fund [UNICEF], 2007). These figures mask considerable variation in mortality levels across the countries in the region. Recent estimates show, for example, that the maternal mortality ratio is 269 (162–435) per 100,000 live births in Yemen and 35 (19–59) per 100,000 live births in Jordan (Hogan et al., 2010). Stark disparities in maternal, newborn, and child health (MNCH) across countries in Africa and the Middle East are reflective of varying levels of economic and social development, support for gender sensitive programming, and political stability.

A central aim of the Health Care Professional Workshop held in Amman, Jordan, on December 17–20, was to provide a forum for better performing countries to share best practices and to provide support to countries struggling with continued high-MNC mortality and promote networking among health care professional associations (HCPAs) to ensure their participation in national health planning. The workshop, the fourth in a series (Health Care Professional Association Writing Group, 2009; Requejo et al., 2010), involved the participation of eight Arabic-speaking countries (Iraq, Jordan, Morocco, Palestine, Somalia/Somaliland, Sudan, United Arab Emirates, and Yemen) and was organized by the Partnership for Maternal, Newborn, and Child Health (PMNCH) in collaboration with the Arab Association of Obstetrics and Gynecology Societies (AAOGS) and facilitated by the International Confederation of Midwives (ICM). Specific goals of the workshop included developing strategies for (a) strengthening the contributions of HCPAs to national level efforts to improve MNCH; (b) building the capacity of national and regional level HCPAs; and (c) strengthening the relationships between national level HCPAs, the Ministry of Health, and development partners. The format of the workshop consisted of two parts. The first session involved presentations, panels, and discussions on five key growth areas for HCPAs—advocacy, national planning, human resources, quality improvement, and organizational strengthening. The second session was dedicated to group work during which country teams developed an action plan for addressing a selected number of critical issues in MNCH within the next 1–2 years. Full documentation of the Jordan workshop is available on the Partnership Web site (http://www.who.int/pmnch/activities/human_resources/healthcareprofessionals/en/).
CHALLENGES IDENTIFIED AND PROPOSED SOLUTIONS

During the first session, challenges to service delivery affecting all participating countries were discussed including the need to address the inequitable deployment of health care workers, the lack of effective retention schemes, and the inadequate health information and the vital registration systems reducing the ability of governments and health care professionals to use evidence to guide decision making. Another common theme across participating countries was the lack of a standardized category of midwives and the proliferation of midwifery categories not meeting ICM standards. Best practices were also shared including the regular participation of HCPAs in several countries in the Ministry of Health technical groups. Participants from Somaliland, for example, described the development of the National Health Care Professionals Council that promotes collaboration across HCPAs and the participation of HCPAs in the development of training curricula, accreditation, opening of new institutions, partnerships with the private sector, and implementation of Ministry of Health programs. Similarly, the pharmacy and pediatric associations in Jordan discussed their efforts to launch the Good Pharmacy Practice initiative to improve health outcomes through the delivery of higher quality pharmacy services.

The country working group sessions enabled HCPAs within countries to join together and develop a plan of action to address existing bottlenecks to service delivery for women and children. The Jordan country team, for example, came to consensus on the importance of developing national standards and guidelines for MNCH, collaborating more with the Ministry of Health, and expanding continuing education opportunities. The Somaliland team agreed to build the capacity of the National Health Care Professional Council as a first step in increasing HCPA organizational strength in the postconflict era.

PROGRESS SINCE THE WORKSHOP

At the 6-month mark, country teams have reported notable progress on implementing their action plans. The Sudan team carried out planned high-level advocacy activities to address barriers to safe motherhood—included initiatives involving the participation of the first lady, federal minister of health, United Nation (UN) agencies, and members of civil society. The Yemen team presented their action plan to the reproductive health technical team at the Ministry of Health. The team also secured support from U.S. Agency for International Development (USAID) to expand the private midwifery program by funding 50 midwives to develop private clinics in remote areas and from United Nations Population Fund (UNFPA) to fund a needs assessment for midwives in six governorates. The Iraqi team participated in a 2-day workshop funded by World Health Organization (WHO) and UNFPA and refined its action plan. Through a series of advocacy initiatives, the Iraqi team convinced the Ministry of Health to integrate its action plan into the 2010–2014 health strategy. The action plan was also integrated into the UNFPA 2011–2014 country program. The midwifery association in Morocco launched thesis work for five midwifery students to assess the nosocomial infection rates in five maternity wards. A pharmacist representing the Ministry of Health in Morocco simultaneously created a Moroccan association for the reduction of nosocomial Infections, which brings together HCPAs and hospital technical and administrative staff to collaborate on a volunteer basis to reduce the rate of infections in public and private health centers. The work of this association focuses on the development of reference material on how to improve cleaning and sterilization and on promoting adherence to these principles of the reference materials in health centers.

Pledges of support and plans for undertaking collaborative activities were also made across participating countries. The Jordan Islamic Hospital, for example, agreed to provide training to two obstetrician-gynecologists from Somalia to help them address their human resource crisis. The United Arab Emirates is currently conducting trainings on colposcopy, emergency obstetric care, and ultrasound in Somaliland and have also pledged to provide trainings in Yemen.

These concrete outcomes of the workshop provide important evidence of the positive impact that regional initiatives can have in stimulating action to improve MNCH. The Jordan workshop provided members of HCPAs in the participating countries with a rare opportunity to exchange ideas, network, and formally agree to collaborate through the development of joint action plans. It enabled regional associations to build links with their national counterparts and also fostered discussion on how to address inequities and other common bottlenecks to progress on MDGs 4 and 5. As frontline providers of care, it is essential that HCPAs begin working together to inform the Ministry of Health...
and development partners about service needs on the ground and strategies for improving the quality of available care. The results reported on here of the Jordan workshop show that through collection action, HCPAs can make a difference.

REFERENCES


Correspondence regarding this article should be directed to Jennifer H. Requejo, PhD, MA, MHS, Institute for International Programs, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD. E-mail: jrequejo@jhsph.edu

Jennifer H. Requejo, PhD, MA, MHS, assistant scientist, Institute for International Programs, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

Kadi Toure, MSc, consulting technical officer, Partnership for Maternal, Newborn, & Child Health, Geneva, Switzerland.

Atf Gherissi, PhD, MEdSc, CM, ICM international adviser for African Francophone countries and Arab countries, assistant professor, Health Education Sciences, Tunis El Manar University, Tunis, Tunisia.

Andres De Francisco, MD, PhD, team coordinator Partnership for Maternal, Newborn, & Child Health, Geneva, Switzerland.
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The International Journal of Childbirth is a quarterly, peer-reviewed publication with a global focus on childbearing. The journal invites the submission of manuscripts that address research, practice, education, and theory as well as case reports, personal narratives, and commentaries on all aspects of childbirth.

The following presentation style should be observed when submitting manuscripts:

- **Clinical and Basic Science Research** articles should include an Abstract, Introduction, Material and Methods, Case History (if applicable), Results, Discussion, Conclusion, and References.
- **Review** articles should provide a comprehensive synthesis of the available information on their chosen topic. They must include headings and reference citations.
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- **Personal Narratives** should be first-hand accounts of childbirth experiences. References are not required but may be included when needed to support data or quotations from published sources.

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**Length.** Submissions are generally expected to be 15 to 25 pages in length; however, the journal considers manuscripts that are longer or shorter.

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