ARTICLE

Jenna Robertson, a registered midwife, was a knowledge translation and research specialist for the Association of Ontario Midwives while this research was conducted.

Sophia Kehler, a student midwife at Ryerson University, was a research coordinator for the Association of Ontario Midwives while this research was conducted. Anna Meuser, a student midwife at Ryerson University, was manager of the clinical practice guidelines program at the Association of Ontario Midwives while this research was conducted.

Tasha MacDonald is a registered midwife and the director of the clinical practice guidelines program of the Association of Ontario Midwives.

Jenny Gilbert is a policy analyst for the Association of Ontario Midwives.

Midwives

Suzannah Bennett, currently a student midwife at Ryerson University, was a knowledge translation and research specialist for the Association of Ontario Midwives when this research was conducted.

After the Unexpected: Ontario Midwifery Clients' Experiences of Postpartum Hemorrhage

Jenna Robertson, MA, RM, Sophia Kehler, BA, Anna Meuser, MPH, Tasha MacDonald, MHSc, RM, Jenny Gilbert, MA, and Suzannah Bennett, MHSc

ABSTRACT

Background: The incidence of postpartum hemorrhage (PPH) varies worldwide. While there is abundant research to guide midwifery practice regarding the acute clinical management of PPH, there is less known about the psychological needs of clients and families following significant blood loss during birth, and no relevant research conducted in a Canadian setting.

Methods: Analysis of qualitative data was conducted based on data from two focus groups and two online surveys with participants who had received midwifery care during at least one pregnancy and had experienced at least one PPH.

Objective: The goal of this research was to describe the experiences of midwifery clients in Ontario who had suffered a PPH and to compare those findings to what is documented in existing literature.

Findings: This study found a range of physical and emotional responses to the experience of PPH, ranging from no effect to short-or longer-term psychological trauma, which is consistent with a small but growing body of international studies. While the risk of delayed lactogenesis increases with PPH, most participants in this study reported no breastfeeding concerns. This study is unique in reporting on creative strategies families developed to cope with PPH.

ARTICLE

Après l'imprévu : Expérience de patientes qui ont eu recours aux services d'une sage-femme en Ontario et qui ont connu une hémorragie postpartum

Jenna Robertson, MA, sage-femme autorisée, Sophia Kehler, BA, Anna Meuser, MPH, Tasha MacDonald, M. Sc. S., sage-femme autorisée, Jenny Gilbert, MA, et Suzannah Bennett, M. Sc. S.

RÉSUMÉ

Contexte: L'incidence de l'hémorragie postpartum (HPP) varie d'une région du monde à une autre. Bien qu'il existe de nombreuses recherches pour guider les sages-femmes quant à la prise en charge clinique active de l'HPP, on en connaît beaucoup moins à propos des besoins psychologiques des patientes et des familles à la suite d'une perte sanguine importante pendant l'accouchement, et aucune recherche pertinente n'a été menée à ce sujet dans un milieu canadien.

Méthodes : On a effectué une analyse de données qualitatives obtenues à partir de deux groupes de discussion et de deux sondages en ligne menés auprès de participantes qui avaient bénéficié des soins d'une sage-femme dans le cadre d'au moins une grossesse et avaient connu au moins une HPP.

Objectif: Le but de cette recherche était de décrire l'expérience vécue par des patientes ayant eu recours aux services d'une sage-femme en Ontario et ayant connu une HPP, puis de comparer ces résultats à ceux qui ont été documentés dans la littérature existante.

Jenna Robertson, sage-femme autorisée, était spécialiste en transfert des connaissances et en recherche à l'Association des sagesfemmes de l'Ontario au moment où la recherche a été menée.

Sophia Kehler, étudiante en pratique sage-femme à l'Université Ryerson, était coordonnatrice de la recherche à l'Association des sages-femmes de l'Ontario au moment où la recherche a été menée.

Anna Meuser, étudiante en pratique sage-femme à l'Université Ryerson, était gestionnaire du programme des directives cliniques à l'Association des sages-femmes de l'Ontario au moment où la recherche a été menée.

Tasha MacDonald est sagefemme autorisée et directrice du programme des directives cliniques de l'Association des sages-femmes de l'Ontario.

Jenny Gilbert est analyste des politiques à l'Association des sagesfemmes de l'Ontario.

Suzannah Bennett, présentement étudiante en pratique sage-femme à l'Université Ryerson, était spécialiste en transfert des connaissances et en recherche à l'Association des sagesfemmes de l'Ontario au moment où la recherche a été menée.

11

Conclusion: Overall, midwifery clients reported feeling well informed by their midwives during an emergency, which translated to positive feelings of control and autonomy. Informed choice, continuity of care, and regular postpartum follow-up were all cited as factors contributing to a positive experience of an adverse event.

KEYWORDS

postpartum hemorrhage, postpartum hemorrhage psychology, midwifery, postpartum period psychology, stress disorders, post-traumatic, breastfeeding

This article has been peer reviewed.

BACKGROUND

Postpartum hemorrhage (PPH) is typically described as bleeding in excess of 500 mL after a vaginal birth and 1,000 mL after a cesarean section. Severe PPH is defined as bleeding in excess of 1,000 mL after a vaginal birth.¹-³ The incidence of PPH varies worldwide, though inaccurate and inconsistent visual estimates of blood loss at birth and differences in definition and reporting mean that the true incidence of PPH may be underestimated.¹-⁴ Rates reported in a 2009 study of midwifery clients in Ontario who had an estimated blood loss of ≥1,000 mL were 0.8% and 1.2% for planned home and planned hospital births, respectively [N = 6,692].⁵

Little information is available to guide midwives in providing care to meet the physical and emotional needs of clients who are recovering from significant postpartum blood loss. Furthermore, the qualitative literature that does explore the psychological aspects of PPH does not report on the experiences of women in Canada. The intent of the research described here was to explore the experiences of Ontario midwifery clients and their families after PPH and to compare the findings to those of the small body of international literature on this topic.

The Association of Ontario Midwives (AOM) develops in-depth, evidence-based clinical practice guidelines for registered midwives and has built a program of integrated knowledge translation incorporating active consumer involvement to target resources for a variety of stakeholders. In 2012, the AOM began developing an updated clinical practice guideline on the management of

PPH. This research identified a gap in the literature regarding the psychological needs of midwifery clients after PPH. Women's Xchange, a women's health knowledge translation and exchange centre, awarded a grant to conduct primary research and develop resources to address this gap.⁶⁻⁸

Three major themes can be drawn from the existing qualitative literature on experiences of PPH: [1] unmet client (and family) needs for education and support during and after PPH,⁹⁻¹³ (2) difficulty initiating breastfeeding,¹⁴ and (3) emotional and physical sequelae.¹⁵⁻¹⁸

Many studies identified patients' need for more information from health care providers, both during and after PPH. 9,10,12,16 Research conducted in the United Kingdom showed that women and their partners reported feeling disempowered during PPH and recovery, describing themselves as passive participants expecting little involvement in discussions or decisions. 9

Research specifically examining the impact of PPH on lactation is scarce.¹⁴ Factors that may contribute to breastfeeding difficulties following PPH include (but are not limited to) delayed early contact between mother and infant, extreme fatigue, and elevated cortisol levels due to the physical and emotional stress that may have adverse effects on lactogenesis stage ^{II.14}

There are conflicting conclusions concerning the long-term effects of PPH, but most research evidence points to some psychological effects occurring either immediately post partum or in the longer term.^{9-11,15-20}

Résultats: Cette étude a révélé tout un éventail de réactions physiques et émotionnelles à l'HPP, allant d'aucun effet jusqu'au traumatisme psychologique à court ou à plus long terme, ce qui correspond aux résultats constatés dans un nombre limité mais croissant d'études menées à l'échelle internationale. Même si le risque de lactogenèse tardive augmente en présence d'une HPP, la plupart des participantes à l'étude n'ont fait état d'aucun problème sur le plan de l'allaitement maternel. Cette étude est la seule à faire mention des stratégies créatives élaborées par les familles pour gérer les conséquences d'une HPP.

Conclusion: Dans l'ensemble, les patientes qui ont eu recours aux services de sages-femmes ont dit avoir été bien informées par celles-ci lorsqu'une situation d'urgence est survenue, ce qui s'est traduit par un sentiment positif de contrôle et d'autonomie. Un choix éclairé, la continuité des soins et un suivi postpartum régulier ont tous été cités comme des facteurs qui ont permis aux patientes ayant vécu un événement indésirable de voir l'expérience sous un angle positif.

MOTS-CLÉS

hémorragie postpartum, psychologie de l'hémorragie postpartum, pratique sage-femme, psychologie de la période postpartum, troubles de stress, post-traumatique, allaitement maternel

Cet article a été évalué par les pairs.

METHODS

Study Sample

Initial recruitment was conducted within a group of former Ontario midwifery clients who had previously expressed interest in participating, as part of the AOM's consumer involvement program, in the development of the PPH clinical practice guideline. These midwifery clients (N=31) were contacted by e-mail and invited either to participate in a focus group discussion or to complete an online survey. To be eligible, participants had to have received midwifery care for at least one pregnancy and to have experienced one episode of PPH under the care of a midwife or another health care provider.

The previous PPH was defined and reported by the participants themselves. Because the focus of the research was on participants' own experiences of PPH, health records were not cross-referenced to verify the amount of blood loss or the severity of symptoms. Four individuals participated in the initial focus group discussion, all of whom had planned home births. Given that the majority of Ontario midwifery clients give birth in hospital (81% in 2013 to 2014, according to Ontario's Better Outcomes Registry and Network), the research team felt it was important to include input from clients who had planned hospital births.²¹ Therefore, a second

round of recruitment took place via the AOM's social media accounts (Facebook and Twitter), specifically targeting midwifery clients who had planned hospital births. An online survey was made available during both rounds of recruitment for anyone who could not travel to Toronto in person or who wished to participate anonymously. Review and approval of the study protocol was obtained from the Community Research Ethics Office.

Data Collection and Analysis

With interviewees' written and verbal consent, semistructured focus group discussions were conducted at the AOM's office in Toronto. The interview guide and the survey, which were identical and used with both groups, consisted of a set of open-ended questions asking participants to describe their experience of PPH, its emotional and physical effects, and the ways in which PPH affected family members, as well as asking participants to reflect on the care they received. Focus group discussions were recorded and fully transcribed; participants' contributions were made anonymous. Interviewers also took written notes during the interviews. Transcripts were independently coded to identify themes, which were compared and discussed among the authors.

Table 1. Descriptive Statistics for Focus Groups and Survey

	Focus Groups	Survey
Total participants	8	15
Total cases of PPH *	10	16
Planned home births	5	1
Planned hospital births	3	9
Birth place information not shared	0	5
PPH managed in home setting by midwives	1	1
Transport from home to hospital	4	Not reported
PPH managed in hospital setting by midwives	2	Not reported
Temporary transfer of care for specialist obstetric	7	Not reported

^{*} PPH: postpartum hemorrhage.

RESULTS

Eight midwifery clients participated in two focus group discussions, and 15 midwifery clients completed online surveys (Table 1). Because of the open-ended nature of the survey's questions, complete information on details such as planned place of birth and transfers of care was not obtained from all survey participants. The following section describes themes identified in the surveys and focus groups.

Informed Choice and Shared Decision Making

Incontrasttoreportsinexistingstudies offeelings of disenfranchisement during an emergency, many participants said that their midwives had engaged them in an ongoing informed-choice process during the emergency and into the postpartum period.⁹ All of the women who described it placed a high value on this shared decision making.

Anything that was asked or discussed, we made sure we brought it back to the midwives, and we decided constantly.

I didn't have to worry about something

going wrong, because I knew if something went wrong [my midwives] would handle it and I would be involved in handling it as well.

I was very appreciative of the fact that [my midwives] gave me the info that I could handle for the situation that I was in. They didn't hide anything, and they certainly answered every question that I had...so I was fine. I was calm.

Clients who transferred from home to hospital described some of the ways in which their midwives facilitated the involvement of unknown providers.

At the hospital...I didn't know any of the nurses [or doctors], but [my midwives] were still there...and even before the ambulance, came my [midwifery] student had already put in my IV, so when the ambulance arrived, the [emergency responders] were like, 'oh, everything's all ready.'

[My midwife] got in [the ambulance], and I was so glad...because I didn't know what was happening.

Many participants described their midwives' engaging family members both during and after the event.

And I remember having lots of conversations with both of [the midwives], and my mom had so many questions...at my home visits after, because she had to go through what happened.

My backup midwife was great; she explained...to the little ones, who didn't understand what ambulances or fire trucks were.

Interventions and Interactions With Care Providers

Commonly, participants recounted their experiences of bimanual compression and the manual removal of the placenta or clots as painful.

Unfortunately, they were sort of, whatever that is when they're going in and helping all these clots come out, which was a million times more painful than pushing a 10-pound baby out.

I just remember the pushing on my stomach. I had bruising from it. It was very painful because I didn't have any medication at all...That was a bit traumatic for me. I remember it being equally as painful as my labour.

Other participants recounted feeling embarrassed and uncomfortable with the blood loss. One stated that "PPH is messy and it's unpredictable, and you're just sort of sitting in this puddle." Another reported, "I had a clot that was literally the size of a baseball. It was horrifying, and I had made a bowel movement and I had to call [someone] to look at it, and it was humiliating."

Transfer to Hospital and Separation From Baby

Patients typically recounted transfer to hospital as difficult and stressful. Some women were

separated from their infants during the management of PPH and reported this separation as distressing.

The ride to the hospital is terrifying; like, if you've never been in an ambulance before, that's scary. And it's scary for your family too.

I had in my mind what you imagine a home birth to be when you're able to do all the things you want to do—to hold your baby—and here my baby was in a car seat; he wasn't even in my husband's arms. That was a rough start to the bonding process, for sure.

Physical Recovery

Many of the women described their physical recovery as exhausting or tiring and taking longer than anticipated.

I remember the extreme exhaustion. I remember trying to wash my hair and I couldn't lift my hands up, I just felt so faint and tired.

I didn't leave my room for 10 days, and then when I tried, I would literally walk to the dining room table and then had to go back to bed...it was really rough for me.

Other women did not recall their physical recovery as particularly challenging. These women's experiences are consistent with those reported in a multicentre cohort study that found no evidence of increased fatigue following PPH compared to fatigue in the absence of PPH.¹⁷

Participants also described feeling extreme hunger and unusual cravings.

Probably one of the weirdest sensations I ever had afterwards was the hunger. I've never been that hungry in my life. I ate so much food. Everything they brought me at the hospital, I was eating it, and it still wasn't enough. I was raiding pantries.

I was a vegan, and I just ate every meat product possible and loved it.

Emotional Recovery

The emotional sequelae of PPH cited in the literature include post-traumatic stress disorder (PTSD), feelings of failure as a parent related to relinquishing care of the baby, nightmares, anxiety and fear, phobia in regard to hospitals, persistent fear of death, sexual avoidance, and interpersonal conflicts.15,16 Focus group participants experienced some of these issues. One participant said, "Emotionally, the guilt of not being there for my child immediately after birth was difficult." Another stated, "I feared that I wouldn't be able to look after my baby."

Anxiety, nightmares, and flashbacks were described by some women. These feelings sometimes lasted beyond the postpartum period, sometimes into subsequent pregnancies.

I think I experienced not severe posttraumatic stress but something like that. I would have flashbacks to the pain, mostly

Participants in this study overwhelmingly reported that they and their family members maintained a central decisionmaking role and felt well informed both during and after PPH.

the pushing on my stomach. I can still feel that. It hurt and it was a bit traumatic, and I didn't recognize it as trauma...I think I just thought it was normal to have those feeling after birth...But I think...I just didn't realize that it was traumatic. So I'm still dealing with it, I think.

I remember anytime I saw an ambulance—I don't know if you would call it flashbacks—but it just, it was anxiety. I had anxiety from the whole experience, and I didn't know I was suffering that until that day I was driving and I saw an ambulance, and it's just like all that emotion floating back.

Other women did not experience their PPH as traumatic or stressful. This is in line with a multicentre study that showed no increased anxiety in women with PPH compared to the general population.17 One participant stated, "I felt fine. It wasn't traumatic to me, other than I want to know why it happened and how for a second kid it doesn't happen."

Supports and Creative Approaches to Recovery

Participants described positive experiences in their recovery stories, even when their recovery was challenging. Coping strategies such as these are rarely discussed in the literature but provide important insight into how these families were able to adapt to unexpected circumstances. Participants discussed the benefit of relying on support networks, having older children involved in their recovery, and writing about their experiences. The process of writing out birth stories produced measurable positive effects in one study of women who experienced PTSD as a result of childbirth trauma.²²

[A couple days] before my second birth, I wrote out my story in words, and [it] just flooded out. It was so healing for me to do that, and I wonder if that may have contributed—I think it did contribute—to my peaceful [second] birth. [My second birth] was just exactly what I would have wanted. Sure, it was painful, but it was wonderful, and I think I had to [write about my first birth] to get it out.

We had picnics in bed for dinner every night. And we did a lot of, like, bedtime activities. Like, we painted our nails, [my son] painted my nails and we painted his nails, and we all had the same colour nails, and there was a lot of family time in the bed, and [my son] really went with it.

PPH and Breastfeeding

Delayed lactogenesis has been cited as a side effect of PPH;¹⁴ however, most of the women interviewed did not report breastfeeding problems or milk supply issues. One participant was grateful that her midwives did not discuss the possibility of delayed lactogenesis: "What I appreciate now is that

they didn't mention anything about sort of delayed onset of lactogenesis." Another stated, "I had a lot of milk. Day 3 at midnight, I was like, 'Honey, I have some milk! This is so awesome!"

The three survey respondents and one focus group participant who felt their breastfeeding was affected by PPH cited separation from the baby, overall fatigue associated with PPH recovery, and lack of support for breastfeeding from hospital staff and midwives as sources of this difficulty.

I missed out on skin-to-skin in the first hour. My husband had it instead. I had a few minutes immediately after birth. My son tried to latch to my partner and gave up by the time he got to me...I feel PPH played a role in my breastfeeding problems.

My lack of strength, energy, and pain during recovery made breastfeeding effectively a major challenge.

We did have some difficulty breastfeeding at first, although I think this was due more to incorrect information...from hospital staff and even my midwife...I was told repeatedly by different people on my care team that I should 'expect breastfeeding problems,' considering the hemorrhage I had. [They said] I would definitely have problems. My milk actually came in normally on day 3, and I was incredibly engorged, and yet I was being encouraged to feed my son formula.

DISCUSSION

This study reports for the first time on the physical and emotional experiences of midwifery clients in Ontario following PPH. While much of the existing literature describes clients and their partners' experiences of feeling underinformed and undersupported by their care providers after PPH, this research found that overall, women and their families felt well supported and adequately informed by their midwives.^{9-11,16} Focus group participants placed a high value on continuity of care and informed choice. Participants perceived the benefits of having their midwives—rather than

unknown providers–perform procedures such as starting the administration of intravenous fluids. Participants also placed a high value on their midwives' providing ongoing care and information even when consultation with obstetrics was required. Participants in this study overwhelmingly reported that they and their family members maintained a central decision-making role and felt well informed both during and after PPH. This contrasts with literature from non-Canadian settings that describes women and partners as starved for information and disenfranchised by their experience of PPH. 9,16

While some participants wished for more follow-up in the postpartum period, most reported satisfaction with the availability of their midwives and with the postpartum care they received. One participant who experienced PPH during her first child's birth reported that she was still struggling with trauma following her second child's birth (which was without complications). She felt there could have been more vigilant screening for postpartum mood disorders. PPH is considered to be a risk factor for postpartum depression.²³⁻²⁹

Anxiety and disappointment regarding separation from the baby during and after the emergency was a common theme. Although most participants reported that they lost skin-to-skin contact during some part of the emergency, one participant reported with satisfaction that her midwives had kept her and her baby in skin-to-skin contact during the management of her PPH. Further research could explore [1] the impact of respectively disrupting or preserving the mother-baby dyad during obstetric emergencies and [2] the resulting emotional and physical sequelae.

Participants in this study reported a variety of strategies for dealing with the emotional and physical consequences of PPH. This report is a unique contribution to the body of literature addressing obstetric trauma and exploring the creative capacity of women and their families to cope with it.

LIMITATIONS

This study is a small, qualitative analysis; as such, it is subject to several limitations. First, participants were self-selected, and demographic

data were not collected. Given the small sample size and convenience sampling methodology, it is unknown whether this data set is representative of the ethnic, socioeconomic, or cultural diversity of midwifery clients who experience PPH, or representative of the broader population served by midwives in Ontario. Second, the location of the focus groups may have made access more difficult for participants from the Toronto area. Third, it is possible that because of self-selection, those who held strong opinions about the care they received may have been more motivated to participate. Further research will be helpful for contextualizing the findings of this project and for better understanding clients' experiences of PPH. Nevertheless, our study provides important insights into some clients' psychological and emotional needs following PPH and may serve to inform clinical practice.

CONCLUSIONS

Reports of the experiences of midwifery clients in Ontario who have experienced postpartum hemorrhage (PPH) contribute to a small but growing body of literature on birth trauma and clients' emotional and psychological needs following PPH. This study echoes findings in the published literature that postpartum debriefing with clients and family members is an important aspect of clinical care after an emergency. Study participants placed a high value on informed choice and continuity of care during the unfolding crisis and also reported benefits from postpartum follow-up by their midwives. Many also desired to be debriefed after discharge from midwifery care at 6 weeks, noting that questions often came up much later. This study is unique in reporting some of the creative approaches to self-care and family care that clients may use when recovering from an obstetric emergency. The findings of this study reflect conflicting reports in published data regarding individual physical and emotional responses to PPH, ranging from responses that have no real effect to responses that result in temporary or lasting trauma, anxiety, fear, and changes in family planning. The small body of published studies examining the link between PPH and breastfeeding tend to focus on the higher risk for delayed lactogenesis stage II. Few participants in this study reported problems with breastfeeding

or milk supply following PPH. The three survey participants who reported breastfeeding problems cited fatigue and misinformation or lack of support from caregivers as explanations for their breastfeeding difficulties. Overall, midwifery clients in this study were satisfied with the care they received, although some participants desired more targeted support in regard to postpartum mood disorders and breastfeeding.

ACKNOWLEDGEMENTS

This project was funded by Women's Xchange, a women's health knowledge translation and exchange centre based at Women's College Hospital in Toronto.

REFERENCES

- Rath WH. Postpartum hemorrhage-update on problems of definitions and diagnosis. Acta Obstet Gynecol Scand. 2011;90:421-8.
- Leduc D, Senikas V, Lalonde AB, Ballerman C, Biringer A, Delaney M, et al. Active management of the third stage of labour: prevention and treatment of postpartum hemorrhage. Int J Gynecol Obstet. 2010 Mar;108(3):258-67.
- 3. World Health Organization. WHO guidelines for the management of postpartum haemorrhage and retained placenta. 2009.
- 4. Carroli G, Cuesta C, Abalos E, Gulmezoglu AM. Epidemiology of postpartum haemorrhage: a systematic review. Best Pract Res Clin Obstet Gynaecol. 2008 Dec;22(6):999-1012.
- 5. Hutton EK, Reitsma AH, Kaufman K. Outcomes associated with planned home and planned hospital births in low-risk women attended by midwives in Ontario, Canada, 2003–2006: a retrospective cohort study. Birth. 2009 Sep;36[3]:180-9.
- Association of Ontario Midwives. Midwifery client experiences of postpartum hemorrhage [Internet]. 2015 [cited 2015 Oct 27]. Available from: http://www.aom.on.ca/files/Health_ Care_Professionals/Clinical_Practice_ Guidelines/WEX_Midwife_PPH_Resource.pdf
- Association of Ontario Midwives. Life after postpartum hemorrhage: recovering from the unexpected [Internet]. 2015. Available from: http://www.ontariomidwives.ca/images/ uploads/client-resources/temp_file_Life_ after_PPH_FINAL3.pdf
- 8. Association of Ontario Midwives. Not what we planned: two stories of birth and postpartum hemorrhage [Internet]. Canada: Association

- of Ontario Midwives; 2015 [cited 2015 Oct 27]. Video. Available from: https://www.youtube.com/watch?v=CqIVK7PqpXI
- 9. Snowdon C, Elbourne D, Forsey M, Alfirevic Z. Information-hungry and disempowered: a qualitative study of women and their partners' experiences of severe postpartum haemorrhage. Midwifery. 2012 Dec;28(6):791-9.
- 10. Gephart S, Cholette M. Living through the unexpected: two fathers share their experience with postpartum hemorrhage. Int J Childbirth Educ. 2011;26(4):49-52.
- 11. Thompson JF, Ford JB, Raynes-Greenow CH, Roberts CL, Ellwood DA. Women's experiences of care and their concerns and needs following a significant primary postpartum hemorrhage. Birth. 2011 Dec;38[4]:327-35.
- 12. Hinton L, Locock L, Knight M. Partner experiences of "near-miss" events in pregnancy and childbirth in the UK: a qualitative study. PLoS One. 2014 Jan;9(4):e91735.
- 13. Hinton L. Conditions that threaten women's lives in childbirth & pregnancy [Internet]. 2013 [cited 2014 Jul 23]. Available from: http:// healthtalkonline.org/learning-teaching/ teaching-resources/conditions-threatenwomens-lives-childbirth-pregnancy
- 14. Thompson JF, Heal LJ, Roberts CL, Ellwood DA. Women's breastfeeding experiences following a significant primary postpartum haemorrhage: a multicentre cohort study. Int Breastfeed J. 2010 Jan;5:5.
- ElmirR,SchmiedV,WilkesL,JacksonD.Separation, failure and temporary relinquishment: women's experiences of early mothering in the context of emergency hysterectomy. J Clin Nurs. 2012 Apr;21[7-8]:1119-27.
- 16. Sentilhes L, Gromez A, Clavier E, Resch B, Descamps P, Marpeau L. Long-term psychological impact of severe postpartum hemorrhage. Acta Obstet Gynecol Scand. 2011 Jun;90[6]:615-20.
- 17. Thompson JF, Roberts CL, Ellwood DA. Emotional and physical health outcomes after significant primary post-partum haemorrhage (PPH): a multicentre cohort study. Aust N Z J Obstet Gynaecol. 2011 Aug;51(4):365-71.
- 18. Gamble J, Creedy DK. A counselling model for postpartum women after distressing birth experiences. Midwifery. 2009 Apr;25[2]:e21-30.
- Van Stralen G, van Stralen-Ruijten LLM, Spaargaren CF, Broadbent E, Kaptein A a, Scherjon S a. Good quality of life after emergency embolisation in postpartum haemorrhage. J Psychosom Obstet Gynaecol. 2010 Dec;31(4):285-8.

- 20. Elmir R, Schmied V, Jackson D, Wilkes L. Between life and death: women's experiences of coming close to death, and surviving a severe postpartum haemorrhage and emergency hysterectomy. Midwifery. 2012 Apr;28(2):228-35.
- 21. BORN Information System. Place of birth, April 1 2013 to March 31 2014. Better Outcomes Registry & Network (BORN) Ontario; 2015.
- 22. Beck C. Post-traumatic stress disorder due to childbirth: the aftermath. Nurs Res. 2004;53[4]:216-24.
- 23. Friedman AJ, Shander A, Martin SR, Calabrese RK, Ashton ME, Lew I, et al. Iron deficiency anemia in women: a practical guide to detection, diagnosis, and treatment. Obstet Gynecol Surv. 2015;70[5]:342-53.
- 24. Milman N. Postpartum anemia II: prevention and treatment. Ann Hematol. 2012 Feb;91(2):143-54.
- 25. Nash CM, Allen VM. The use of parenteral iron therapy for the treatment of postpartum anemia. J Obstet Gynaecol Can. 2015;37[5]:439-42.
- 26. Bergmann RL, Richter R, Bergmann KE, Dudenhausen JW. Prevalence and risk factors for early postpartum anemia. Eur J Obstet Gynecol Reprod Biol. 2010 Jun;150(2):126-31.
- 27. Milman N. Postpartum anemia I: definition, prevalence, causes, and consequences. Ann Hematol. 2011 Nov;90[11]:1247-53.
- 28. Barroso F, Allard S, Kahan BC, Connolly C, Smethurst H, Choo L, et al. Prevalence of maternal anaemia and its predictors: a multicentre study. Eur J Obstet Gynecol. 2011 Nov:159(1):99-105.
- 29. Bhandal N, Russell R. Intravenous versus oral iron therapy for postpartum anaemia. BJOG. 2006 Nov;113[11]:1248-52.