

Promoting Maternal and Infant Health in the 4th Trimester

Sarah B. Verbiest

Kristin P. Tully

Alison M. Stuebe

University of North Carolina at Chapel Hill

Abstract

The “4th trimester” refers to the transition period after childbirth when infants are adjusting to life outside the womb and mothers are adjusting to new parenthood. This critical period is marked by significant biological, psychological, and social changes, which are currently insufficiently supported. The 4th trimester perspective draws attention and calls for resources to address overlapping maternal health domains. Multiple issues intersect during this critical time: maternal mood and emotional well-being; infant care and feeding; sexuality, contraception, and birth spacing; sleep and fatigue; physical recovery from childbirth; and medications, substances, and exposures. By comprehensively addressing these interconnecting needs, service providers can improve health and well-being across two generations.

The term *4th trimester* reflects the transition period that occurs after childbirth and during the first few months of new parenthood. Newborns require months of intense, “womblike” nurturing for optimal growth and development (Karp, 2012). A perspective of the postpartum period as the 4th trimester views the mother and infant as deeply interconnected, behaviorally and physiologically (Ball & Klingaman, 2007). The transition to motherhood necessitates substantial transformation for women, who are simultaneously experiencing unique and changing hormonal shifts and expanding roles and responsibilities. As Kitzinger (1975) noted:

There is a fourth trimester to pregnancy and we neglect it at our peril. It is a transitional period of 3 months after birth when many women are highly vulnerable, experience confusion and despair and during which anxiety is normal and reactive depression commonplace. (p. 118)

Although some families transition smoothly to postpartum life, many others do not. To support these families, providers must focus on ways to advance the integration and tailoring of health care and other services for mothers and infants within the context of their diverse family and community settings.

The 4th trimester approach makes clear that infants need to be held and cared for. For example, the sensory stimulation facilitated by prolonged skin-to-skin contact promotes growth, weight gain, temperature regulation, feeding readiness, and reduced crying (Moore, Bergman, Anderson, & Medley, 2016), but cultural understandings of infants are often mismatched to these needs. Further, providers may not recognize or encourage close contact with infants, nor view infant behavior as shaping the health and well-being of the parents. The concept of the 4th trimester moves the conversation forward from treating mothers and infants as separate individuals to considering them as mutually regulating dyads. In practice, clinicians, home visitors, and other practitioners typically assess either the needs of the child or the needs of the woman; instead, providers must consider one’s needs in the context of the others’. The neglected postpartum health and wellness of new mothers must be elevated and addressed with tailored services, better research, and social support. In this article, we make the case by describing the unique health concerns women experience in the fourth trimester as overlapping domains (Figure 1). In addition, we describe barriers to health and maternal role adaptation. We conclude with

recommendations for change to enhance well-being not only for women, but also for the mother–infant dyad and the family at large.

Maternal Mood and Emotional Well-Being

Perinatal depression (PND) is an episode of moderate or severe major depressive disorder beginning either during pregnancy or within 4–6 weeks following delivery (American Psychiatric Association, 2013; World Health Organization, 1992). Its prevalence is approximately 15%, making it a common (Gavin et al., 2005; Gaynes et al., 2005) and potentially devastating complication of pregnancy (Flynn, Davis, Marcus, Cunningham, & Blow, 2004; Marmorstein, Malone, & Iacono, 2004; O'Hara & McCabe, 2013; Wisner et al., 2013). During the postpartum period, women with depression are at increased risk of maternal suicide, infanticide, and impaired maternal sensitivity and attachment with the infant (Campbell et al., 2004; Lindahl, Pearson, & Colpe, 2005; McLearn, Minkovitz, Strobino, Marks, & Hou, 2006; Paulson, Dauber, & Leiferman, 2006). Women with depression are also less likely to engage in enriching interactions with the child, such as reading or singing (Network NECCR, 1999). Women with postpartum depression often experience prominent anxiety symptoms, which have been associated with increased maternal health care utilization and reduced breastfeeding duration (Paul, Downs, Schaefer, Beiler, & Weisman, 2013; Stuebe, Grewen, & Meltzer-Brody, 2013).

Despite the high prevalence and substantial health concerns associated with PND, this condition is underrecognized. Although clinicians are generally supportive of screening for PND (Dietrich et al., 2003; LaRocco-Cockburn, Melville, Bell, & Katon, 2003), such support does not consistently translate into

practice. In the United States, fewer than half of women are formally screened for PND (Seehusen, Baldwin, Runkle, & Clark, 2005). Consistent with such efforts, fewer than 50% of PND cases are detected in routine clinical practice, with antenatal recognition rates reported at 41% (Goodman & Tyer-Viola, 2010) and postnatal rates ranging from 29% (Fairbrother & Abramowitz, 2007) to 43% (Hearn et al., 1998). Both the American College of Obstetricians and Gynecologists (Committee on Obstetric Practice, 2015) and the American Academy of Pediatrics (Earls, 2010) recommend screening for PND; however, many obstetricians and pediatricians do not see the diagnosis and treatment of maternal depression or anxiety as their responsibility, and they frequently lack the training and time required to engage symptomatic women in effective treatment (Olson, Dietrich, Prazar, & Hurley, 2006).

Even when PND is appropriately recognized, women with perinatal mood disorders face significant barriers to treatment. For many women, the decision to seek treatment for mental health services during the perinatal period is extremely difficult due to the stigma associated with mental illness in general, which is exacerbated by societal expectations placed on pregnant and postpartum women in particular. Family members and health care providers may not be supportive of a woman's decision to take medication, and conflicting literature on antidepressant safety during pregnancy and lactation compounds the problem. Lack of financial resources and available mental health services also contributes to this treatment gap. As a result, more than half of women diagnosed with PND do not receive adequate treatment (Ko, Farr, Dietz, & Robbins, 2012).

Infant Care and Feeding

Infant feeding is a significant predictor of health outcomes for both mother and infant. Among mothers, never breastfeeding, nonexclusive breastfeeding, or early cessation of breastfeeding are associated with increased risks of breast cancer, ovarian cancer, diabetes, hypertension, and myocardial infarction (Stuebe & Schwarz, 2010). For infants, feeding practices are associated with risks of otitis media, diarrhea, respiratory tract infection, sudden infant death syndrome, leukemia, and Type 1 diabetes (Ip et al., 2007). On the basis of these associations, all major medical organizations recommend 6 months of exclusive breastfeeding, with continued breastfeeding through the infant's first year and beyond (American Academy of Pediatrics, 2012; American College of Obstetricians and Gynecologists, 2016). Increasing breastfeeding initiation, duration, and intensity are thus major public health priorities, and Healthy People 2020 includes objectives related to breastfeeding rates, workplace policies, and hospital practices. However, breastfeeding rates in the United States fall far short of these recommendations. Although 81% of U.S. mothers initiate breastfeeding, just 22% of mother–infant dyads achieve the recommended 6 months of exclusive breastfeeding (Centers for Disease Control and Prevention, 2014). Multiple factors impact breastfeeding duration (Baxter, Cooklin, & Smith, 2009; DiGirolamo, Grummer-Strawn, & Fein, 2008; Fein, Mandal, & Roe, 2008; Ogbuanu, Glover, Probst, Liu, & Hussey,

Figure 1. Key Health Themes in the 4th Trimester

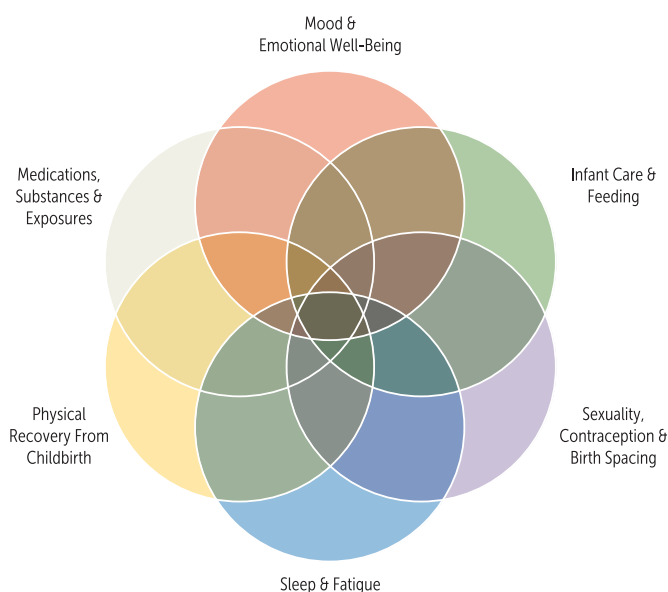




Photo: OLL Studio/shutterstock

The term *4th trimester* reflects the transition period that occurs after childbirth and during the first few months of new parenthood.

2011; Scott, Binns, Oddy, & Graham, 2006; Witt, Smith, Mason, & Flocke, 2012), and recent public health campaigns have drawn attention to social constraints such as unpaid maternity leave, negative attitudes toward nursing in public, and lack of workplace accommodations for mothers of breastfed infants (Pérez-Escamilla, 2012).

Sexuality, Contraception, and Birth Spacing

Along with learning to care for the newborn and navigating changes in mood and fatigue, couples resume intimacy in the 4th trimester, which requires them to navigate changes in sexual desire after childbirth, as well as access effective and acceptable contraception to prevent early, unplanned pregnancy. The optimal interval before another pregnancy is at least 18 months after childbirth; shorter interpregnancy intervals (IPIs) are associated with adverse outcomes for the mother, the infant, and the subsequent child. More than half of women resume sexual intercourse by 6 weeks postpartum, and 90% resume by 12 weeks postpartum (Leeman & Rogers, 2012). However, women receive little information on postpartum sexuality: In the national survey report *Listening to Mothers III: New Mothers Speak Out* (LTM-III; Declercq, Sakala, Corry, Applebaum, & Herrlich, 2013), only 30% of respondents

reported that they received enough information about changes in sexual response and feelings, despite many women reporting painful intercourse (27%) and lack of sexual desire (43%). For women who are not breastfeeding, ovulation can occur as early as 25 days postpartum (Jackson & Glasier, 2011). To prevent unplanned pregnancy and short IPIs, women who resume heterosexual intercourse need access to an acceptable, effective contraceptive. Such guidance is not provided routinely: In the national LTM-III survey, only 57% of women who attended a postpartum visit reported getting enough information about birth control methods (Declercq et al., 2013).

Short IPIs are common; more than one third of repeat pregnancies in the United States are conceived less than 18 months following a live birth (Appareddy, Pryor, & Bailey, 2016). However, they are associated with negative infant health outcomes, including premature birth (Adam, Ismail, Nasr, Prins, & Smits, 2009; Rodrigues & Barros, 2008), stillbirth (Williams et al., 2008), decreased gestational age at birth for preterm and term deliveries (DeFranco, Ehrlich, & Muglia, 2014), low birth weight (Adam et al., 2009), small size for gestational age (Grisaru-Granovsky, Gordon, Haklai, Samueloff, & Schimmel, 2009), autism spectrum disorders (Cheslack-Postava, Liu, & Bearman, 2011; Gunnes et al., 2013), and mortality (Hussaini, Ritenour, & Coonrod, 2013). For the mother, a short IPI is associated with increased risk of third-trimester bleeding, premature rupture of membranes (Conde-Agudelo & Belizan, 2000), uterine rupture after previous cesarean section delivery (Stamilio et al., 2007), uterine infection, anemia, and mortality (Conde-Agudelo & Belizan, 2000). In addition, breastfeeding can be negatively impacted by the occurrence of another pregnancy (Conde-Agudelo & Belizan, 2000). Increasing access to long-acting reversible contraception has been proposed as a strategy to address short IPIs, but access is a challenge due to barriers to care, persistent myths about these methods, and reimbursement-related constraints. Each woman's own wishes about preventing pregnancy must be considered, as well as her personal preferences for method of contraception. Supporters of reproductive justice demand that providers assist women in accessing their preferred form of contraception and protect their autonomy in deciding how long they wish to use it (Higgins, 2014).

Sleep and Fatigue

The majority of new American mothers report insufficient sleep (Demirci, Braxter, & Chasens, 2012). The fatigue associated with nighttime parenting can affect adult mental health, lead to relationship problems (Kelly & El-Sheikh, 2011; Paulson et al., 2006) and result in early introduction of solid foods to the infant diet (Clayton, Li, Perrine, & Scanlon, 2013). In addition, parent and infant sleep locations directly affect parent–infant interactions, including nocturnal breastfeeding frequency (Ball, Ward-Platt, Heslop, Leech, & Brown, 2006; McKenna, Mosko, & Richard, 1997) and breastfeeding duration (Ball, 2003; Blair, Heron, & Fleming, 2010; Howel & Ball, 2013; Huang et al., 2013; Santos, Mota, Matijasevich, Barros, & Barros, 2009). Women may be aware of the safe infant sleep guidance, but perceive the

recommendations as an unrealistic ideal or otherwise not applicable to their circumstances. Providers commonly advise mothers to “sleep when the baby sleeps,” but evidence for the effectiveness of this advice is lacking; indeed, a longitudinal study of maternal sleep patterns found that new mothers slept an average of 7.2 hours per night, but their sleep was highly fragmented. Napping was uncommon—less than half of women napped one or more times a week after 2 weeks postpartum (Montgomery-Downs, Insana, Clegg-Kraynok, & Mancini, 2010)—likely reflecting that daytime napping does not compensate for fragmented sleep. Research around fatigue, however, underscores the significant negative impact it can have on mood, coping, health, and safety (Insana, Williams, & Montgomery-Downs, 2013).

Physical Recovery From Childbirth

For women who experience a spontaneous vaginal delivery over an intact perineum, the physical recovery from childbirth may be quite straightforward. However, in the LTM-III, 41% of women who had a vaginal birth reported perineal pain in the first 2 months, and nearly one in five experienced an infection from a cut or torn perineum (Declercq et al., 2013). Among women with cesarean births, 58% reported pain at the C-section site, and half reported itching or numbness in the first 2 months. For one in five women, these problems persisted to 6 months or more. Urinary incontinence is common (Borello-France et al., 2006) but not often discussed. Likewise, pelvic-floor weakness and organ prolapse cause women considerable discomfort and embarrassment. Many suffer in silence, afraid to discuss these conditions with providers or friends.

Postpartum weight is another key issue for recovery from childbirth: Forty-four percent of women in LTM-III reported problems with weight control (Declercq et al., 2013). Childbearing is associated with increased long-term obesity risk, attributed in part to retained gestational weight gain after pregnancy (Gunderson & Abrams, 2000; Gunderson et al., 2009). In a recent community-based study among low-income women (Endres et al., 2015), the authors found that three of four women were heavier at 1 year postpartum than prepregnancy, with 47.4% retaining 10–20 lbs., and 24.2% retaining 20 lbs. or more. Retained postpartum weight is associated with long-term cardio metabolic disease risk (Rooney & Schauburger, 2002; Rooney, Schauburger, & Mathiason, 2005), and helping women to lose weight after delivery should be a public health priority (Institute of Medicine & National Research Council, 2009). In addition, women’s dissatisfaction with their postpartum body image is associated with depressive symptoms (Silveira, Ertel, Dole, & Chasan-Taber, 2015).

Medications, Substances, and Exposures

For women with histories of tobacco and other substance use, the stresses of childbirth and parenting during the postpartum period are major risk factors for relapse. Postpartum relapse is common among women who stop using tobacco during



Photo: BonNontawat/shutterstock

Infant feeding is a significant predictor of health outcomes for both mother and infant.

pregnancy (Colman & Joyce, 2003). Following a successful period of tobacco cessation during pregnancy, approximately 50% of all women relapse during the 6 months after delivery. Forty-five percent of women relapse within 3 months after the baby is born. Approximately 70% of women who do quit smoking during pregnancy relapse within 1 year postpartum. Black women are almost twice as likely as White women to relapse during the postpartum period, after successfully quitting during pregnancy (Carmichael & Ahluwalia, 2000).

The American Academy of Pediatrics states that breastfeeding mothers commonly stop breastfeeding when they begin using medication (Sachs et al., 2013). Women may not be accurately informed about whether they can or cannot take medications during breastfeeding. Providers may disagree on how women can safely take medications during breastfeeding. Limited and conflicting data on antidepressants during breastfeeding are of particular concern, given the high prevalence of postpartum depression (Sriraman, Melvin, & Meltzer-Brody, 2015). Information in many medication databases is conflicting, leading to inappropriate guidance (Akus & Bartick, 2007). Women lack information overall about which medicines are safe to use while breastfeeding.

Postpartum Care

Despite the substantial health burdens women face, the standard for postpartum care is a single visit. Maternal postpartum clinical appointments have typically been scheduled at about 6 weeks following childbirth (World Health Organization, 1998), and have been poorly attended—20% to 40% of women do not see a maternity provider between 3 and 8 weeks postpartum (National Committee for Quality Assurance, 2014), and attendance rates are lower among populations with limited resources (Bennett et al., 2014; Bryant, Haas, McElrath, & McCormick, 2006), contributing to health disparities. These issues are particularly challenging for low-wealth populations;

half of U.S. women receive perinatal care through Medicaid, and in states that have not expanded Medicaid under the Affordable Care Act, these women lose insurance coverage by 60 days after birth (which underscores the necessity of timely postpartum services). In addition to these challenges, Cornell, McCoy, Stampfel, Bonzon, and Verbiest (2016) enumerated numerous barriers for women who seek postpartum services, including lack of child care, inability to get an appointment, mistrust of health care providers, and limited perception of the value of the visit. Work undertaken by the Association of Maternal and Child Health Programs (Cornell et al., 2016) on this topic also generated three suggested solutions, reported in the section Recommendations for Improved Care.

During the critical 4th trimester, postpartum clinical health services have been characterized as “inconsistent . . . fragmented across disciplines and sectors, and currently do not adequately meet the needs of the population” (Schmied et al., 2010). Mothers are often uncertain about the scope of health providers’ practices and who is responsible for particular postpartum concerns (Brodribb, Zadoroznyj, & Dane, 2013). Data from LTM-III suggested that women have multiple unmet clinical needs in the early postpartum period (Declercq et al., 2013; Figure 2). Declercq et al. also found that 15% of women had no regular medical provider after childbirth. Lack of a medical provider was more common among women whose birth was covered by Medicaid (17%) compared with private insurance (10%). New initiatives address some of these gaps, including the American College of Obstetrics and Gynecology’s

Committee Opinion on Optimizing Postpartum Care, the Alliance for Innovation on Maternal Health national partnership to address challenges in the U.S. maternity care system, and the Association of Women’s Health Obstetric and Neonatal Nurses’s Empowering Women to Obtain Needed Care Project: A Postpartum Discharge Education Program (Kleppel, Suplee, Stuebe, & Bingham, 2016). Access to quality, equitable, and culturally appropriate care and services is essential for everyone, and its deficit is particularly impactful during this sensitive period in the life course of the mother and infant. Figure 2, developed from data in the Listening to Mothers III report, represents mothers’ experience of selected new-onset health problems in the first 2 months after birth (Declercq et al, 2013).

Services and Systems for New Families

In addition to the gaps in knowledge of the appropriate content of postpartum health, the systems that care for women are fragmented and difficult to access. Although the arrival of a new baby brings much joy to a new family, an infant also brings the need for significant adaptation. Professionals and community groups that serve new families must understand the complexity of the issues faced by the mother in particular, to provide more comprehensive and family-centered services. Fahey and Shenassa (2013) underscored that

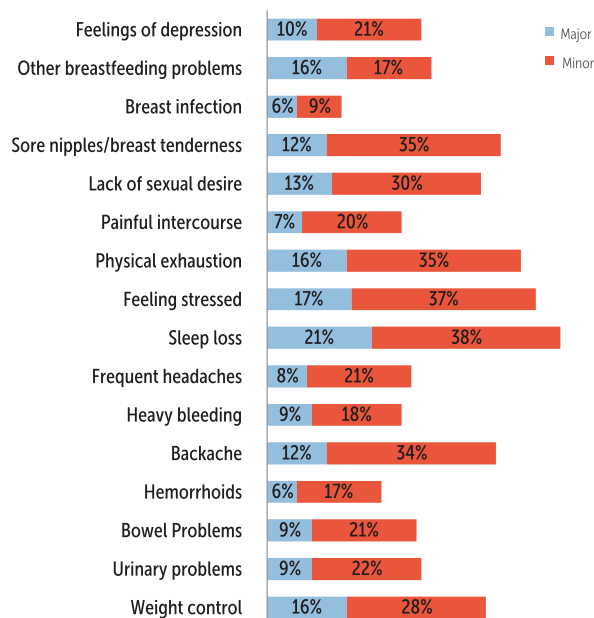
in addition to the physiologic changes associated with the postpartum period, a woman undergoes marked psychosocial changes as she transitions into a motherhood role, reestablishes relationships, and works to meet the physical and emotional needs of her infant and other family members. (p. 613)

Fahey and Shenassa have developed a perinatal maternal health promotion conceptual framework that suggests professionals need to help new mothers strengthen four key health-promoting skills: (a) mobilizing social support, (b) realizing self-efficacy, (c) creating positive coping strategies, and (d) having realistic expectations. Services need to support this role adaptation by being convenient and easily accessible.

Health Equity

Women of color, women of low wealth, same-sex couples, and other groups are often marginalized for a number of reasons, including implicit bias among providers, distrust of the health care system, and multiple access barriers (Hogan, Rowley, Bennett, & Taylor, 2012). These constraints intersect and result in significant, persistent gaps in care and disparities in health outcomes, including maternal mortality and serious complications (Bartick et al., 2016). Black women are 3 to 4 times more likely to die from pregnancy-related causes than White women (Tucker, Berg, Callaghan, & Hsia, 2007). They are also twice as likely to suffer from severe maternal health problems compared to White women (Creanga, Bateman, Kuklina, & Callaghan, 2014). In terms of infant outcomes, rates of preterm birth, low birth weight, and infant mortality continue to be significantly greater among Blacks than among Whites. In 2013, 16.3% of

Figure 2. Mothers’ Experience of Selected New-Onset Health Problems in the First 2 Months After Birth



Data adapted from Declercq, E. R., Sakala, C., Corry, M. P., Applebaum, S., & Herrlich, A. (2013). *Listening to Mothers III: New mothers speak out*. New York, NY: Childbirth Connection.

Black infants were born preterm, compared with just 10.2% of White infants (Martin, Hamilton, Osterman, Curtin, & Matthews, 2015). Even after accounting for known risk factors (e.g., low income, low education, chronic conditions, risky health behaviors), these disparities persist (Lu & Halfon, 2003). There are similarly marked disparities in infant mortality, with rates of 5.18 per 1,000 for Non-Hispanic White mothers, compared with 11.46 per 1,000 for Non-Hispanic Black mothers (Matthews & MacDorman, 2013).

4th Trimester Patient-Centered Outcomes Research Initiative (PCORI)

Although the concerns for new mothers are considerable, the evidence-based practice and clinical research available to guide professionals in addressing these overlooked issues is limited. In September 2015, the University of North Carolina at Chapel Hill Center for Maternal and Infant Health, in partnership with the Carolina Global Breastfeeding Institute and the university's Department of Obstetrics and Gynecology, received a Patient-Centered Outcomes Research Institute Engagement Award to engage patients and stakeholders around these critical postpartum months. The overarching goal is to bring together patients (new mothers) and other stakeholders to define priority areas for patient-centered, comparative effectiveness research that will improve the care of mothers and infants in the 4th trimester. Working with a group of 20 diverse patient representatives through in-person meetings, webinars, and online groups, the team has received rich ideas and information for future research and practice. The research team has also built a robust social media presence to look for trends and concerns from women across the country. The suggestions from 4th trimester mothers, women's voices in social media, results of the national Postpartum Think Tank (Cornell et al., 2016) meeting, and published research led to the recommendations described below for enhanced public health and clinical services for women.

Recommendations for Improved Care

Participants in the 2014 national Postpartum Think Tank meeting identified the following strategies for improving maternal health and well-being: (a) creating integrated services and seamless care transitions from preconception through postpartum and well-baby services; (b) developing business, community, and government support, including paid parental leave, health insurance, and spaces for new parents to meet each other; and (c) providing mother-centered care, including quality visits, on mothers' schedules, with complete and culturally appropriate information. All service sectors are challenged to consider their roles in supporting new families and illustrate the importance of a more global community investment in this sensitive period (Cornell et al., 2016).

Women who are part of the 4th Trimester PCORI network have identified a variety of approaches for improving support for new mothers. First, they have elevated the significant need for



Photo: Romrodphoto/shutterstock

The optimal interval before another pregnancy is at least 18 months after childbirth.

paid parental leave and sick leave. Without leave, parents in the workforce, especially mothers, must make difficult choices between a rapid return to work and loss of income. Many describe doing what they could to build savings in advance, yet 23% of employed women in the United States return to work within 10 days postpartum (Abt Associates, 2012). This balance is a struggle, with the women noting that they function "like zombies" and reiterating how difficult it is to fulfill all of their roles and responsibilities. They challenge the current perception that women and their partners are meant to do this intense family, domestic, and employment work in isolation. When women have adequate protected time, they report to the 4th Trimester project that returning to a professional community can be deeply rewarding.

The 4th Trimester project stakeholders ask that health care professionals, including public health nurses and home visitors, thoughtfully approach conversations about nighttime parenting and sleep. Fatigue can negatively impact many facets of a woman's life and her ability to care for her child. Choices about where babies sleep, nighttime feeding, and shared partner responsibility are unique to each family and influenced by cultural values and beliefs. (Ball & Volpe, 2013). Some parents make deliberate choices to maintain close proximity and emotional connections, whereas others actively seek to instill infant independence through separation (McKenna et al., 1997).

Learn More

The 4th Trimester project is seeking health care provider and patient engagement, which can be accomplished through these social media outlets: www.facebook.com/4thTrimesterProject and @4th TriProject

Tully, Holditch-Davis, and Brandon (2015) found that women's plans differed from their reported home infant sleep locations over the first postpartum month. In addition to the variability in family approaches to nighttime infant care, parents' expectations often clash with the reality that unfolds within households over time. Tailored, supportive information is critical to reducing risks in the infant sleep environment, including elimination of sofa and recliner sleeping, and promoting optimal nighttime feeding by reducing early supplementation and bottle propping.

Educational materials provided to women and their partners should be consistent—from verbal advice across the care team to written educational materials and discharge paperwork. When there is not one clearly advisable approach, professionals should share all the options with parents and engage them in making the decision that is most appropriate and achievable for them. Women desire to have materials, texting programs, and other initiatives tied into their health care so that the issues can be brought up and discussed to the level of family interest over time. Inconsistent information about infant parenting, feeding, and self-care can increase stress for women and in some cases lead them to feel they are not doing a good job as a mother. Women also note that they often need quick access to information and turn to Internet searches to try to find what they need.

Listening to women and families, whose opinions and needs often go unexpressed or unheard, or both, is foundational to providing high-quality care. Well-meaning providers and practitioners may assume they know what new mothers want and need, and should do a better job of asking them, phrasing questions in a manner that solicits their goals and engages them in program design and development. It is likewise important to honor mothers and fathers as experts about their babies. Truly, no one can know or understand the infant as well as the baby's primary caregivers. Mothers may be anxious about their baby for good reason—and providers must respect that perspective as valuable and valid. In order to support maternal and paternal role attainment, it is important to affirm and encourage all that is going well with the parent–infant relationship and caretaking. That process establishes a rapport that lays the foundation for effectively providing anticipatory guidance and troubleshooting. Women need affirmation of their newly acquired abilities as mothers; they are very sensitive to any perception of guilt or shaming.

Social isolation is also a major concern. Fourth trimester women wondered if metrics and measures for home visiting programs could include connecting and convening new parents in a neighborhood or community to foster a sense of interdependence and support. The power of shared experience and connection is strong. Could home visitors or public health partners facilitate introductions, meet-ups, and playgroups and support private online community pages for the families of the children who are being served?

Finally, women underscored that the health challenges and themes described here are necessarily intertwined and overlapping. For example, maternal depression and anxiety are associated with reduced breastfeeding duration (Dennis & McQueen, 2009), and women with depression report poorer sleep quality (Bei, Milgrom, Ericksen, & Trinder, 2010). Depression and fatigue likely impact postpartum weight loss and tobacco recidivism. Similarly, issues related to physical recovery from childbirth, such as incontinence and perineal pain, directly impact sexuality and resumption of intercourse. Studying only one component or issue ignores the complexity of women's lives and the intersectionality of these factors. Optimal support for women acknowledges the interrelatedness of their health issues and situates solutions within the context of their daily lives and constraints.

Call to Action

Currently, the American health care system delivers intensive care during pregnancy and birth, with weekly visits in the final weeks of gestation. Yet after a woman gives birth, her care is relegated to a single visit 4 to 6 weeks later. It seems that once the candy is out of the wrapper, the wrapper is cast aside. Providers need to fundamentally restructure how they care for families following childbirth, recognizing both that women deserve care in their own right and that the well-being of mother and infant are intimately connected. Comprehensive care for families can improve health and well-being across generations.

Acknowledgment

This work was supported by Eugene Washington Patient Centered Outcomes Research Institute (PCORI) Engagement Award, EAIN-2603. PCORI is an independent, nonprofit organization authorized by Congress in 2010 to fund comparative effectiveness research that will provide patients, their caregivers, and clinicians with the evidence needed to make better-informed health and health care decisions. PCORI is committed to seeking input from a broad range of stakeholders to guide its work.

Sarah B. Verbiest, DrPH, MSW, MPH, is clinical associate professor at the University of North Carolina (UNC) at Chapel Hill School of Social Work and executive director of the UNC Center for Maternal and Infant Health. Dr. Verbiest has extensive expertise in the 4th trimester. Her dissertation, *The Postpartum Visit, A Missed Opportunity for Prevention*, took a multifaceted view on postpartum health—the system, providers, and consumers. Verbiest is a co-principal investigator on a Health Resources and Services Administration, Maternal and Child Health Bureau-funded study, Care4Moms, which is conducting research to learn more about the unique postpartum health needs of mothers with infants in the neonatal intensive care nursery. She recently coedited a special issue of the *Maternal and Child Health Journal* on postpartum health and wellness.

Kristin P. Tully, PhD, is a research associate at the University of North Carolina at Chapel Hill. Dr. Tully's program of research investigates maternity care, patient-provider communication, breastfeeding experiences, and parent-infant nighttime interactions. Broadly, she is interested in understanding and supporting the health needs and parenting practices of new families. Dr. Tully is principal investigator of a North Carolina Translational and Clinical Sciences Institute Improving Human Health Award to design and develop infant side-car bassinets for U.S. postnatal units, through the Carolina Global Breastfeeding Institute, and she is a member of the National Action Partnership to Promote Safe Sleep to advance the implementation of integrated, conversation-based guidance on safe family sleep and optimal infant feeding.

Alison M. Stuebe, MD, MSc, is associate professor of obstetrics and gynecology, Division of Maternal-Fetal Medicine,

Department of Obstetrics and Gynecology, University of North Carolina (UNC) School of Medicine. She also is a member of the leadership team at the Carolina Global Breastfeeding Institute and the UNC Center for Maternal and Infant Health. She currently serves as the lead principal investigator for Care4Moms, a research project funded by the Maternal and Child Health Bureau, Health Resources and Services Administration, Department of Health and Human Services. Care4Moms is a mixed-methods study of mothers of medically fragile infants. This study will identify the challenges these mothers have in accessing care as well as propose recommended modifications to the current system of care. She is also a principal investigator on the PCORI 4th Trimester project, among many others. Dr. Stuebe is well known internationally for her research and advocacy on breastfeeding. She is also an active clinician providing comprehensive high-risk care in the UNC Healthcare System.

References

- Abt Associates. (2012). *Family and medical leave in 2012: Technical report*. Retrieved from www.dol.gov/asp/evaluation/fmla/FMLA-2012-Technical-Report.pdf.
- Adam, I., Ismail, M. H., Nasr, A. M., Prins, M. H., & Smits, L. J. (2009). Low birth weight, preterm birth and short interpregnancy interval in Sudan. *Journal of Maternal, Fetal, & Neonatal Medicine*, 22(11), 1068–1071.
- Akus, M., & Bartick, M. (2007). Lactation safety recommendations and reliability compared in 10 medication resources. *Annals of Pharmacotherapy*, 41(9), 1352–1360.
- American Academy of Pediatrics. (2012). Breastfeeding and the use of human milk. *Pediatrics*, 129(3), e827–e841.
- American College of Obstetricians and Gynecologists. (2016). Optimizing support for breastfeeding as part of obstetric practice (Committee Opinion No. 658). *Obstetrics & Gynecology*, 127, e86–e92.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5)*. Arlington, VA: American Psychiatric Publishing.
- Appareddy, S., Pryor, J., & Bailey, B. (2016). Inter-pregnancy interval and adverse outcomes: Evidence for an additional risk in health disparate populations. *Journal of Maternal, Fetal, & Neonatal Medicine*, 29(1), 1–5.
- Ball, H. L. (2003). Breastfeeding, bed-sharing, and infant sleep. *Birth*, 30(3), 181–188.
- Ball, H. L., & Klingaman, K. P. (2007). Breastfeeding and mother-infant sleep proximity. In E. O. Smith & J. J. McKenna (Eds.), *Evolutionary medicine and health: New perspectives* (pp. 226–241). Oxford, UK: Oxford University Press.
- Ball, H. L., Ward-Platt, M. P., Heslop, E., Leech, S. J., & Brown, K. A. (2006). Randomised trial of infant sleep location on the postnatal ward. *Archives of Disease in Childhood*, 91(12), 1005–1010.
- Ball, H. L., & Volpe, L. E. (2013). Sudden infant death syndrome (SIDS) risk reduction and infant sleep location: Moving the discussion forward. *Social Science and Medicine*, 79, 84–91.
- Bartick, M. C., Jegier, B. J., Green, B. D., Schwarz, E. B., Reinhold, A. G., & Stuebe, A. M. (2016). Disparities in breastfeeding: Impact on maternal and child health outcomes and costs. *The Journal of Pediatrics* [Epub ahead of print] doi:10.1016/j.jpeds.2016.10.028.
- Baxter, J., Cooklin, A. R., & Smith, J. (2009). Which mothers wean their babies prematurely from full breastfeeding? An Australian cohort study. *Acta Paediatrica*, 98(8), 1274–1277.
- Bei, B., Milgrom, J., Ericksen, J., & Trinder, J. (2010). Subjective perception of sleep, but not its objective quality, is associated with immediate postpartum mood disturbances in healthy women. *Sleep*, 33(4), 531–538.
- Bennett, W. L., Chang, H. Y., Levine, D. M., Wang, L., Neale, D., Werner, E. F., & Clark, J. M. (2014). Utilization of primary and obstetric care after medically complicated pregnancies: An analysis of medical claims data. *Journal of General Internal Medicine*, 29(4), 636–645.
- Blair, P. S., Heron, J., & Fleming, P. J. (2010). Relationship between bed sharing and breastfeeding: Longitudinal, population-based analysis. *Pediatrics*, 126(5), e1119–e1126.
- Borello-France, D., Burgio, K. L., Richter, H. E., Zyczynski, H., Fitzgerald, M. P., Whitehead, W., . . . Pelvic Floor Disorders Network. (2006). Fecal and urinary incontinence in primiparous women. *Obstetrics & Gynecology*, 108(4), 863–872.
- Brodrribb, W., Zadoroznyj, M., & Dane, A. (2013). The views of mothers and GPs about postpartum care in Australian general practice. *BMC Family Practice*, 14, 139.
- Bryant, A. S., Haas, J. S., McElrath, T. F., & McCormick, M. C. (2006). Predictors of compliance with the postpartum visit among women living in healthy start project areas. *Maternal and Child Health Journal*, 10(6), 511–516.
- Campbell, S. B., Brownell, C. A., Hungerford, A., Spieker, S. I., Mohan, R., & Blessing, J. S. (2004). The course of maternal depressive symptoms and maternal sensitivity as predictors of attachment security at 36 months. *Development and Psychopathology*, 16(2), 231–252.
- Carmichael, S. L., & Ahluwalia, I. B. (2000). Correlates of postpartum smoking relapse: Results from the Pregnancy Risk Assessment Monitoring System (PRAMS). *American Journal of Preventive Medicine*, 19(3), 193–196.
- Centers for Disease Control and Prevention. (2013). *Key statistics from the national survey of family growth*. Retrieved from https://www.cdc.gov/nchs/nsfg/key_statistics/b.htm#breastfeedi

- Centers for Disease Control and Prevention. (2014). *Breastfeeding among U.S. children born 2000–2010, CDC National Immunization Survey*. Retrieved from www.cdc.gov/breastfeeding/data/NIS_data/index.htm
- Cheslack-Postava, K., Liu, K., & Bearman, P. S. (2011). Closely spaced pregnancies are associated with increased odds of autism in California sibling births. *Pediatrics*, 127(2), 246–253.
- Clayton, H. B., Li, R., Perrine, C. G., & Scanlon, K. S. (2013). Prevalence and reasons for introducing infants early to solid foods: Variations by milk feeding type. *Pediatrics*, 131(4), e1108–e1114.
- Colman, G. J., & Joyce, T. (2003). Trends in smoking before, during, and after pregnancy in 10 states. *American Journal of Preventive Medicine*, 24(1), 29–35.
- Committee on Obstetric Practice. (2015). Screening for perinatal depression (The American College of Obstetricians and Gynecologists Committee Opinion No. 630). *Obstetrics & Gynecology*, 125(5), 1268.
- Conde-Agudelo, A., & Belizan, J. M. (2000). Maternal morbidity and mortality associated with interpregnancy interval: Cross-sectional study. *British Medical Journal*, 321(7271), 1255–1259.
- Cornell, A., McCoy, C., Stampfel, C., Bonzon, E., & Verbiest, S. (2016). Creating new strategies to enhance postpartum health and wellness. *Maternal and Child Health Journal*, 20(Suppl. 1), 39–42.
- Creanga, A. A., Bateman, B. T., Kuklina, E. V., & Callaghan, W. M. (2014). Racial and ethnic disparities in severe maternal morbidity: A multistate analysis, 2008–2010. *American Journal of Obstetrics and Gynecology*, 210(5), e431–438.
- Declercq, E. R., Sakala, C., Corry, M. P., Applebaum, S., & Herrlich, A. (2013). *Listening to Mothers III: New mothers speak out*. New York, NY: Childbirth Connection.
- DeFranco, E. A., Ehrlich, S., & Muglia, L. J. (2014). Influence of interpregnancy interval on birth timing. *BJOG: An International Journal of Obstetrics and Gynaecology*, 121(13), 1633–1640.
- Demirci, J. R., Braxter, B. J., & Chasens, E. R. (2012). Breastfeeding and short sleep duration in mothers and 6–11-month-old infants. *Infant Behavior and Development*, 35(4), 884–886.
- Dennis C.-L., & McQueen, K. (2009). The relationship between infant-feeding outcomes and postpartum depression: A qualitative systematic review. *Pediatrics*, 123(4), e736–e751.
- Dietrich, A. J., Williams, J. W., Jr., Ciotti, M. C., Schulkin, J., Stotland, N., Rost, K., . . . Cornell, J. (2003). Depression care attitudes and practices of newer obstetrician-gynecologists: A national survey. *American Journal of Obstetrics and Gynecology*, 189(1), 267–273.
- DiGirolamo, A. M., Grummer-Strawn, L. M., & Fein, S. B. (2008). Effect of maternity-care practices on breastfeeding. *Pediatrics*, 122(Suppl. 2), S43–S49.
- Earls, M. F. (2010). Incorporating recognition and management of perinatal and postpartum depression into pediatric practice. *Pediatrics*, 126(5), 1032–1039.
- Endres, L. K., Straub, H., McKinney, C., Plunkett, B., Minkovitz, C. S., Schetter, C. D., . . . Community Child Health Network of the Eunice Kennedy Shriver National Institute of Child Health and Human Development. (2015). Postpartum weight retention risk factors and relationship to obesity at 1 year. *Obstetrics & Gynecology*, 125(1), 144–152.
- Fahey, J. O., & Shenassa, E. (2013). Understanding and meeting the needs of women in the postpartum period: The Perinatal Maternal Health Promotion Model. *Journal of Midwifery and Women's Health*, 58(6), 613–621.
- Fairbrother, N., & Abramowitz, J. S. (2007). New parenthood as a risk factor for the development of obsessional problems. *Behaviour Research and Therapy*, 45(9), 2155–2163.
- Fein, S. B., Mandal, B., & Roe, B. E. (2008). Success of strategies for combining employment and breastfeeding. *Pediatrics*, 122(Suppl. 2), S56–S62.
- Flynn, H. A., Davis, M., Marcus, S. M., Cunningham, R., & Blow, F. C. (2004). Rates of maternal depression in pediatric emergency department and relationship to child service utilization. *General Hospital Psychiatry*, 26(4), 316–322.
- Gavin, N. I., Gaynes, B. N., Lohr, K. N., Meltzer-Brody, S., Gartlehner, G., & Swinson, T. (2005). Perinatal depression: A systematic review of prevalence and incidence. *Obstetrics & Gynecology*, 106(5 Pt 1), 1071–1083.
- Gaynes, B. N., Gavin, N., Meltzer-Brody, S., Lohr, K. N., Swinson, T., Gartlehner, G., . . . Miller W. C. (2005). Perinatal depression: Prevalence, screening accuracy, and screening outcomes. *Evidence Report/Technology Assessment (Summary)*, 119, 1–8.
- Goodman J. H., & Tyer-Viola, L. (2010). Detection, treatment, and referral of perinatal depression and anxiety by obstetrical providers. *Journal of Women's Health*, 19(3), 477–490.
- Grisaru-Granovsky, S., Gordon, E. S., Haklai, Z., Samueloff, A., & Schimmel, M. M. (2009). Effect of interpregnancy interval on adverse perinatal outcomes: A national study. *Contraception*, 80(6), 512–518.
- Gunderson, E. P., & Abrams, B. (2000). Epidemiology of gestational weight gain and body weight changes after pregnancy. *Epidemiologic Reviews*, 22(2), 261–274.
- Gunderson, E. P., Jacobs, D. R., Jr., Chiang, V., Lewis, C. E., Tsai, A., Quesenberry, C. P., Jr., & Sidney, S. (2009). Childbearing is associated with higher incidence of the metabolic syndrome among women of reproductive age controlling for measurements before pregnancy: The CARDIA study. *American Journal of Obstetrics and Gynecology*, 201(2), e171–e179.
- Gunnes, N., Surén, P., Bresnahan, M., Hornig, M., Lie, K. K., Lipkin, W., . . . Stoltenberg C. (2013). Interpregnancy interval and risk of autistic disorder. *Epidemiology*, 24(6), 906–912.
- Hearn, G., Iliff, A., Jones, I., Kirby, A., Ornistrom, P., Parr, P., . . . Wardman, L. (1998). Postnatal depression in the community. *The British Journal of General Practice*, 48(428), 1064–1066.
- Higgins, J. A. (2014). Celebration meets caution: Long-acting reversible contraception (LARC)'s boons, potential busts, and the benefits of a reproductive justice approach. *Contraception*, 89(4), 237.
- Hogan, V. K., Rowley, D., Bennett, T., Taylor, K. D. (2012). Life course, social determinants, and health inequities: Toward a national plan for achieving health equity for African American infants—a concept paper. *Maternal Child Health Journal*, 16(6), 1143–1150.
- Howel, D., & Ball, H. (2013). Association between length of exclusive breastfeeding and subsequent breastfeeding continuation. *Journal of Human Lactation*, 29(4), 579–585.
- Huang, Y., Hauck, F. R., Signore, C., Yu, A., Raju, T. N., Huang, T. T., & Fein, S. B. (2013). Influence of bedsharing activity on breastfeeding duration among U.S. mothers. *JAMA Pediatrics*, 167(11), 1038–1044.
- Hussaini, K. S., Ritenour, D., & Coonrod, D. V. (2013). Interpregnancy intervals and the risk for infant mortality: A case control study of Arizona infants 2003–2007. *Maternal and Child Health Journal*, 17(4), 646–653.
- Institute of Medicine & National Research Council. (2009). *Weight gain during pregnancy: Reexamining the guidelines*. Washington, DC: National Academies Press.
- Insana, S. P., Williams, K. B., & Montgomery-Downs, H. E. (2013). Sleep disturbance and neurobehavioral performance among postpartum women. *Sleep*, 36(1), 73–81.

- Ip, S., Chung, M., Raman, G., Chew, P., Magula, N., DeVine, D., . . . Lau, J. (2007). Breastfeeding and maternal and infant health outcomes in developed countries. *Evidence Report/Technology Assessment*, 153, 1–186.
- Jackson, E., & Glasier, A. (2011). Return of ovulation and menses in postpartum nonlactating women: A systematic review. *Obstetrics & Gynecology*, 117(3), 657–662.
- Karp, H. (2012). The fourth trimester and the calming reflex: Novel ideas for nurturing young infants. *Midwifery Today With International Midwife*, 102(1), 25–26, 67.
- Kelly, R. J., & El-Sheikh, M. (2011). Marital conflict and children's sleep: Reciprocal relations and socioeconomic effects. *Journal of Family Psychology*, 25(3), 412.
- Kitzinger, S. (1975). The fourth trimester? *Midwife, Health Visitor, & Community Nurse*, 11(4), 118–121.
- Kleppel, L., Suplee, P. D., Stuebe, A. M., & Bingham, D. (2016). National initiatives to improve systems for postpartum care. *Maternal and Child Health Journal*, 20(1), 66–70.
- Ko, J. Y., Farr, S. L., Dietz, P. M., & Robbins, C. L. (2012). Depression and treatment among U.S. pregnant and nonpregnant women of reproductive age, 2005–2009. *Journal of Women's Health*, 21(8), 830–836.
- LaRocco-Cockburn, A., Melville, J., Bell, M., & Katon, W. (2003). Depression screening attitudes and practices among obstetrician–gynecologists. *Obstetrics & Gynecology*, 101(5 Pt. 1), 892–898.
- Leeman, L. M., & Rogers, R. G. (2012). Sex after childbirth: postpartum sexual function. *Obstetrics & Gynecology*, 119(3), 647–655.
- Lindahl, V., Pearson, J. L., & Colpe, L. (2005). Prevalence of suicidality during pregnancy and the postpartum. *Archives of Women's Mental Health*, 8(2), 77–87.
- Lu, M. C., & Halfon, N. (2003). Racial and ethnic disparities in birth outcomes: A life-course perspective. *Maternal and Child Health Journal*, 7(1), 13–30.
- Marmorstein, N. R., Malone, S. M., & Iacono, W. G. (2004). Psychiatric disorders among offspring of depressed mothers: Associations with paternal psychopathology. *American Journal of Psychiatry*, 161(9), 1588–1594.
- Martin, J. A., Hamilton, B. E., Osterman, M. J., Curtin, S. C., & Matthews, T. J. (2015). Births: Final data for 2013. *National Vital Statistics Report*, 64(1), 1–65.
- Matthews, T. J., & MacDorman, M. F. (2013). Infant mortality statistics from the 2010 period linked birth/infant death data set. *National Vital Statistics Reports*, 62(8), 1.
- McKenna, J. J., Mosko, S. S., & Richard, C. A. (1997). Bedsharing promotes breastfeeding. *Pediatrics*, 100(2), 214–219.
- McLearn, K. T., Minkovitz, C. S., Strobino, D. M., Marks, E., & Hou, W. (2006). The timing of maternal depressive symptoms and mothers' parenting practices with young children: Implications for pediatric practice. *Pediatrics*, 118(1), e174–e182.
- Montgomery-Downs, H. E., Insana, S. P., Clegg-Kraynok, M. M., & Mancini, L. M. (2010). Normative longitudinal maternal sleep: the first 4 postpartum months. *American Journal of Obstetrics & Gynecology*, 203(5), 465–e1.
- Moore, E. R., Bergman, N., Anderson, G. C., Medley, N. (2016). *Early skin-to-skin contact for mothers and their healthy newborn infants*. Cochrane Database Syst Rev. Nov 25;11:CD003519.
- National Committee for Quality Assurance. (2014). *Perinatal care*. (State of Health Care Quality Report).
- Network NECCR. (1999). Chronicity of maternal depressive symptoms, maternal sensitivity, and child functioning at 36 months. *NICHD Early Child Care Research Network. Developmental Psychology*, 35(5), 1297–1310.
- Ogbuanu, C., Glover, S., Probst, J., Liu, J., & Hussey, J. (2011). The effect of maternity leave length and time of return to work on breastfeeding. *Pediatrics*, 127(6), e1414–e1427.
- O'Hara, M. W., & McCabe, J. E. (2013). Postpartum depression: Current status and future directions. *Annual Review of Clinical Psychology*, 9, 379–407.
- Olson, A. L., Dietrich, A. J., Prazar, G., & Hurley, J. (2006). Brief maternal depression screening at well-child visits. *Pediatrics*, 118(1), 207–216.
- Paul, I. M., Downs, D. S., Schaefer, E. W., Beiler, J. S., & Weisman, C. S. (2013). Postpartum anxiety and maternal–infant health outcomes. *Pediatrics*, 131(4), e1218–e1224.
- Paulson, J. F., Dauber, S., & Leiferman, J. A. (2006). Individual and combined effects of postpartum depression in mothers and fathers on parenting behavior. *Pediatrics*, 118(2), 659–668.
- Pérez-Escamilla, R. (2012). Breastfeeding social marketing: Lessons learned from USDA's "Loving Support" campaign. *Breastfeeding Medicine*, 7(5), 358–363.
- Rodrigues, T., & Barros, H. (2008). Short interpregnancy interval and risk of spontaneous preterm delivery. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 136(2), 184–188.
- Rooney, B. L., & Schauburger, C. W. (2002). Excess pregnancy weight gain and long-term obesity: One decade later. *Obstetrics & Gynecology*, 100(2), 245–252.
- Rooney, B. L., Schauburger, C. W., & Mathiason, M. A. (2005). Impact of perinatal weight change on long-term obesity and obesity-related illnesses. *Obstetrics & Gynecology*, 106(6), 1349–1356.
- Sachs, H. C., Frattarelli, D. A., Galinkin, J. L., Green, T. P., Johnson, T., Neville, K., . . . Van den Anker, J. (2013). The transfer of drugs and therapeutics into human breast milk: An update on selected topics. *Pediatrics*, 132(3), e796–e809.
- Santos, I. S., Mota, D. M., Matijasevich, A., Barros, A. J., & Barros, F. C. (2009). Bed-sharing at 3 months and breast-feeding at 1 year in southern Brazil. *The Journal of Pediatrics*, 155(4), 505–509.
- Schmied, V., Mills, A., Kruske, S., Kemp, L., Fowler, C., & Homer, C. (2010). The nature and impact of collaboration and integrated service delivery for pregnant women, children and families. *Journal of Clinical Nursing*, 19(23–24), 3516–3526.
- Scott, J. A., Binns, C. W., Oddy, W. H., & Graham, K. I. (2006). Predictors of breastfeeding duration: Evidence from a cohort study. *Pediatrics*, 117(4), e646–e655.
- Seehusen, D. A., Baldwin, L. M., Runkle, G. P., & Clark, G. (2005). Are family physicians appropriately screening for postpartum depression? *The Journal of the American Board of Family Practice*, 18(2), 104–112.
- Silveira, M. L., Ertel, K. A., Dole, N., Chasan-Taber, L. (2015). The role of body image in prenatal and postpartum depression: A critical review of the literature. *Archives of Women's Mental Health*, 18(3), 409–421.
- Sriraman, N. K., Melvin, K., & Meltzer-Brody, S. (2015). ABM Clinical Protocol #18: Use of antidepressants in breastfeeding mothers. *Breastfeeding Medicine*, 10(6), 290–299.
- Stamilio, D. M., DeFranco, E., Paré, E., Odibo, A. O., Peipert, J. F., Allsworth, J. E., . . . Macones, G. A. (2007). Short interpregnancy interval: Risk of uterine rupture and complications of vaginal birth after cesarean delivery. *Obstetrics & Gynecology*, 110(5), 1075–1082.
- Stuebe, A. M., Grewen, K., & Meltzer-Brody, S. (2013). Association between maternal mood and oxytocin response to breastfeeding. *Journal of Women's Health*, 22(4), 352–361.
- Stuebe, A. M., & Schwarz, E. B. (2010). The risks and benefits of infant feeding practices for women and their children. *Journal of Perinatology*, 30(3), 155–162.

- Tucker, M. J., Berg, C. J., Callaghan, W. M., & Hsia, J. (2007). The Black-White disparity in pregnancy-related mortality from 5 conditions: Differences in prevalence and case-fatality rates. *American Journal of Public Health, 97*(2), 247–251.
- Tully, K. P., Holditch-Davis, D., & Brandon, D. (20015). The relationship between planned and reported home infant sleep locations among mothers of late preterm and term infants. *Maternal Child Health Journal, 19*(7), 1616–1623.
- Williams E. K., Hossain, M. B., Sharma, R. K., Kumar, V., Pandey, C. M., & Baqui, A. H. (2008). Birth interval and risk of stillbirth or neonatal death: findings from rural north India. *Journal of Tropical Pediatrics, 54*(5), 321–327.
- Wisner, K. L., Sit, D. K., McShea, M. C., Rizzo, D. M., Zoretich, R. A., Hughes, C. L., ... Confer, A. L. (2013). Onset timing, thoughts of self-harm, and diagnoses in postpartum women with screen-positive depression findings. *JAMA Psychiatry, 70*(5), 490–498.
- Witt, A. M., Smith, S., Mason, M. J., & Flocke, S. A. (2012). Integrating routine lactation consultant support into a pediatric practice. *Breastfeeding Medicine, 7*(1), 38–42.
- World Health Organization. (1992). *International statistical classification of diseases and related health problems, 10th revision (ICD-10)*.
- World Health Organization. (1998). *Postpartum care of the mother and newborn: a practical guide: Report of a technical working group*.

KVCC | KENNEBEC VALLEY
COMMUNITY COLLEGE

Earn your degree in Early Childhood Education ONLINE!

Enhanced curriculum incorporates parent engagement, STEM, and nature exploration with child development best practice.



Students may use their current workplace as their practicum site.

Learn more at
www.kvcc.me.edu/education

Kennebec Valley Community College is an equal opportunity / affirmative action institution and employer. For more information please contact the Affirmative Action Office at (207) 453-5117

Did you enjoy this article?

Visit our online bookstore to find more fascinating journal issues and articles to help enhance your practice.

Some popular journal topics include:

- Home Visiting
- Challenging Behavior
- Brain Development
- Reflective Supervision
- School Readiness

Your *trusted* information resource!

Current and informative.
There is no other journal like it!

Take advantage of this special offer!

Visit at www.zerotothree.org/article5

