

Florida International University FIU Digital Commons

Nicole Wertheim College of Nursing and Health
Sciences

Nicole Wertheim College of Nursing and Health
Sciences

11-2017

Comparing Mothers' Postpartum Concerns in 2 Clinical Trials 18 Years Apart

Jean Hannan

Nicole Wertheim College of Nursing and Health Sciences, Florida International University

Dorothy Brooten

Nicole Wertheim College of Nursing and Health Sciences, Florida International University

JoAnne M. Youngblut

Nicole Wertheim College of Nursing and Health Sciences, Florida International University, youngblu@fiu.edu

Ali Marie Galindo

Nicole Wertheim College of Nursing and Health Sciences, Florida International University, agalindo@fiu.edu

Follow this and additional works at: https://digitalcommons.fiu.edu/cnhs_fac

 Part of the [Medicine and Health Sciences Commons](#)

Recommended Citation

Hannan, Jean; Brooten, Dorothy; Youngblut, JoAnne M.; and Galindo, Ali Marie, "Comparing Mothers' Postpartum Concerns in 2 Clinical Trials 18 Years Apart" (2017). *Nicole Wertheim College of Nursing and Health Sciences*. 41.
https://digitalcommons.fiu.edu/cnhs_fac/41

This work is brought to you for free and open access by the Nicole Wertheim College of Nursing and Health Sciences at FIU Digital Commons. It has been accepted for inclusion in Nicole Wertheim College of Nursing and Health Sciences by an authorized administrator of FIU Digital Commons. For more information, please contact dcc@fiu.edu.



HHS Public Access

Author manuscript

J Am Assoc Nurse Pract. Author manuscript; available in PMC 2017 November 01.

Published in final edited form as:

J Am Assoc Nurse Pract. 2016 November ; 28(11): 604–611. doi:10.1002/2327-6924.12384.

Comparing Mothers' Postpartum Concerns in 2 Clinical Trials 18 Years Apart

Jean Hannan, PhD, ARNP [Assistant Professor],
Nicole Wertheim College of Nursing and Health Sciences

Dorothy Brooten, PhD [FAAN Professor],
Nicole Wertheim College of Nursing and Health Sciences

JoAnne M. Youngblut, PhD, FAAN, and
Dr. Herbert and Nicole Wertheim Professor, Nicole Wertheim College of Nursing and Health Sciences

Ali Marie Galindo, MSN [ARNP Clinical Assistant Professor]
Nicole Wertheim College of Nursing and Health Sciences

Abstract

Background/purpose—To determine if US women's postpartum concerns have changed overtime.

Methods—Mothers' postpartum concerns were compared in 2 clinical trials: 1997 (High Risk Pregnancy); 2015 (First Time Mothers). Advanced Practice Nurses (APNs) provided care through 8 weeks postpartum and recorded interactions in clinical logs. Content analysis of logs was used to identify concerns.

Results—95% of 58 1997 mothers were African American; 64% of 62 2015 mothers were Hispanic. Number of infant concerns (129 vs 144) was similar as were 4 of top 5; infant feeding was the top concern for both. 1997 mothers were concerned with body changes, birth control, breastfeeding, maternal health problems and had more concerns about their health (142 vs. 43); 2015 mothers were concerned with not having help, fatigue, finding things hard. Both groups had postpartum pain concerns and problems accessing mother/infant governmental programs.

Conclusions—Mother's concerns regarding infant care were essentially the same over the 2 time periods with infant feeding as the top concern. Maternal concerns in common were postpartum pain and needing help accessing government programs. Women who had high risk pregnancies had more health concerns.

Implications for Practice—Results provide guidance for helping minority mothers in the postpartum period.

Corresponding author: Jean Hannan, PhD, ARNP, Assistant Professor, Florida International University, Academic Health Center 3, Nicole Wertheim College of Nursing and Health Sciences, 11200 SW 8th Street, Office 324A Miami, FL 33199, Phone 305-348-0227 Fax 305-348-7765, jhann001@fiu.edu.

Contributions statement of authors: All authors, Jean Hannan, Dorothy Brooten, JoAnne Youngblut and Ali Galindo meet the ICMJE recommendations for authorship. All authors have participated in the conceptual design, drafting, revising, analysis of the data of the manuscript and all have approved the final draft of the manuscript as submitted.

Introduction

The World Health Organization (WHO) reports that the postpartum period is when most maternal and infant deaths occur (WHO, 2014). During this critical but often neglected period, new mothers have many health care concerns about themselves and their newborns including physical recovery, lack of sleep, breastfeeding, infant care and the demands of caring for a new baby, family care and relationship concerns, insurance coverage and transitioning back to their jobs (Insana, Costello, & Montgomery-Downs, 2011; Kanotra et al., 2007; Petch, Halford, Creedy, & Gamble, 2015; Sink, 2009). The literature on maternal concerns covers a broad time period when many changes occurred in health care services and financing in the US. It is not clear if mothers' postpartum concerns have changed over time given these changes. The purpose of this study was to determine if postpartum concerns of women have changed overtime in the US using a secondary analysis of data from two clinical trials conducted 18 years apart.

Background

Maternal concerns have included physical, emotional and functional recovery. In a 2014 sample of 45 postpartum women, mothers lacked understanding of physical and emotional symptoms following childbirth and had difficulty accessing postpartum follow up care for themselves (Martin, Horowitz, Balbierz, and Howell, 2014). In a 2010 telephone survey of 724 postpartum women, mothers were concerned about breast-feeding (63%), infant care (59%), and body changes (83%) with the remainder focused on lack of predictability of infants, sleep disturbances, fussy baby/colic, and assimilation into a new role (Howell, 2010). In a 2007 US study, maternal concerns during early postpartum were worries about family finances, meeting the needs of everyone at home, being a good mother and learning more about their infants (Hiser, 2007), findings consistent with those of Kaitz in an Israeli study (2007). Kantora and team (2007) identified challenges that US women face 2–9 months postpartum using qualitative data gathered by the Pregnancy Risk Assessment Monitoring System (PRAMS), an on-going population-based surveillance system that collects self-reported maternal behaviors and experiences before, during, and after the birth of a live infant. Results from the mainly white sample indicated mothers had breastfeeding issues, lack of education about newborn care after discharge, and needs for social support, help with postpartum depression, extended postpartum hospital stay, and maternal insurance coverage beyond delivery.

Postpartum concerns of mothers who had high risk pregnancies document concerns with the inability to anticipate pregnancy complications, dealing with uncertainty and the impact these complications will have on their health and their baby's health resulting in increased stress and anxiety (Bayrampo, Heaman, Duncan, & Tough, 2012; Carolan, Nelson, 2007; Denis, Michaux, Callahan, 2012; Rumbold and Crowther 2002). In a randomized clinical trial with low income postpartum mothers who had a high risk pregnancy, findings indicated that mothers' most common problems were physiologic (44.0%) and psychosocial (31.6%) (Brooten, Youngblut, Donahue, Hamilton, Hannan, and Neff, 2007). Another study comparing health care problems with 41 high risk pregnant diabetic women. The number of health care problems totaled 61,004 with the majority experienced antenatally 42,944

[70.4%]) and 18,060 (29.6%) occurred postpartum. The most common antenatal physiologic problems were difficulty coping with body changes; problems with rest, exercise, diet, discomforts, fears regarding delivery, problems with blood sugar levels, weight gain and adherence to a prescribed diet; having difficulty in caring for their symptoms, and seeking, obtaining and returning for medical care (Brooten, Youngblut, Hannan, Guido-Sanz, Neff, and Deoisres, 2012). A study with high risk pregnancies (Bayrampo 2012), women had lower health ratings about themselves compared to pregnant women without any high risk condition, findings consistent with those of Rumbold and Crowther (2002) in an Australian study. In a systematic review of 11 studies meeting the inclusion criteria of chronically ill women during pregnancy, birth and the postnatal period, mothers' main concerns were risks to their baby and their own health (Lange, Schnepf, and Zu Sayn-Wittgenstein, 2015). Berg (2005) in qualitative study with 44 Swedish diabetic pregnant women found that a common concern of mothers' was constant worry about their infants' health. Overall, mothers with high risk pregnancies have increased concern over their own health and the health of their infant compared to non-high risk mothers, however the literature in this area is very limited

Mothers' postpartum concerns are increased with low social support, increased stress, and unmet learning needs (Loprest, Zedlewski, & Schaner, 2007; Sword, Watt, & Krueger, 2006). In a study of single, low-income US Hispanic mothers' needs, concerns, social support, and interactions with health care services, findings indicated mothers had difficulty accessing social support and information regarding self-care and infant care. They also had limited social networks (Campbell-Grossman, Hudson, Keating-Lefler, Yank, and Obafunwa, 2009). Support systems are also important for women's emotional recovery. A cross sectional study examined effects of support systems on depression levels in an ethnically diverse sample of 33 women 6-12 months postpartum who had completed participation in a postpartum depression randomized trial (Negron and team, 2012). Women identified receipt of instrumental support as essential to their physical and emotional recovery. Lack of instrumental support to help with basic needs was related to greater intensity of depressive symptoms. In another study examining postpartum anxiety and maternal-infant health outcomes in a mainly white sample of 1154 US mothers and their babies, results indicated that postpartum state anxiety is a common, acute phenomenon during the childbirth hospitalization that is associated with increased use of health care services after discharge and reduced breastfeeding duration (Paul, Downs, Schaefer, Beiler, and Weisman, 2015).

Concerns regarding infant care are heavily focused on infant feeding and overall infant care (Kantora et al., 2007, Kaitz, 2007; Osman et al., 2010; Petch et al., 2012; Sink, 2009). Bernard-Bonni (2006) reported that transient feeding problems are common and chronic feeding problems affect 25–40% of infants. Manikam&Perman (2000) reported similar results (25%-35%). In a 2009 US sample of 89 mainly white (92%) first time mothers, findings indicated that mothers most desired information was on general infant care followed by infant feeding (Sink, 2009). In a review of interventions targeted to new parents, findings demonstrated that parents reported that the most distressing aspects of infant care were coping with infant crying, followed by infant feeding (Petch and team, 2012). While most women could successfully breastfeed, the demands of breastfeeding for the mothers

were high. Findings are consistent with those of Negron, Martin, Almog, Balbierz, and Howell (2012).

Situational concerns—In addition to postpartum maternal and infant concerns, mothers may have situational concerns including: no health insurance (Nightingale & Fix, 2004), difficulty accessing the health care system, financial and transportation problems (Rudowitz, Artiga, & Arguello, 2014; Trivedi, Rakowski, & Ayanian, 2008). Lack of health insurance related to unemployment and/or low income is a major obstacle in accessing the US health care system (Hannan, 2013). These concerns are increased when mothers have language barriers and conflicts between the mother's cultural beliefs and the health care system and its providers (Hannan, 2013). In addition, cuts in the US federal budget for health care have contributed to a reduction in community maternal-child health services (Bekemeier, Chen, Kawakyu, & Yang, 2013; Ferrara & Hunter, 2010; Sturdevant, 2012).

In summary, the literature on postpartum maternal concerns spans a broad time period with many changes in US health care delivery and financing. Much of the reported literature is from countries outside the US. Studies reported in the US have been conducted with mainly white samples despite a changing US population mix. Studies comparing postpartum mothers concerns today and those from earlier periods are lacking. The purpose of this study was to determine if postpartum concerns of women have changed overtime in the US using a secondary analysis of data from two clinical trials conducted 18 years apart.

Methods

This secondary analysis compares treatment-group mothers' postpartum concerns (birth to 8 weeks postpartum) in 2 randomized clinical trials (RCTs) that examined maternal and infant outcomes and health care costs. In both trials, APNs recorded the content of contacts (home and clinic visits, telephone) with new mothers in clinical interaction logs to document the care they provided. The present study compares mothers' postpartum concerns recorded in the interaction logs from the 2 RCTs completed in the US 18 years apart. One RCT was completed in 2015 (Low-Income First-Time Mothers: Effects of NP Follow-up Mobile Technology on Maternal and Infant Outcomes and Healthcare Charges [Hannan, Brooten, Page, & Galindo, 2015] and one was completed in 1997 (A Randomized Trial of Nurse Specialist Home Care for Women with High-Risk Pregnancies: Outcomes and Costs [Brooten et al., 2001]).

The First-Time Mothers' RCT (2012-2015: Hannan, Page, & Brooten)

In this RCT, one group of mothers of normal full term newborns received the APN intervention and mothers' postpartum concerns from hospital discharge to 8 weeks postpartum were recorded. Inclusion criteria were: low-income (annual income < \$18,530 for a 3-person and \$14,710 for a 2-person household) first-time mothers, 18 years or older, understood spoken English or Spanish, access to a cell phone, gave birth to a singleton healthy full-term infant (≥ 36 weeks), and any racial/ethnic group. Only mother-infant dyads with limited access to health care (i.e., delayed discharge due to delay in Medicaid, no pediatrician) were included. Exclusion criteria were: multiple gestation pregnancy, infant born prior to 36 weeks gestation or with feeding intolerance, hypoglycemia, or congenital

abnormalities, and mothers with diabetes, hypertension, or delivery complications. The APN intervention included teaching mothers about infant health care, counseling, cell phone and texting outreach, and the availability of the APNs with physician backup. The APNs were master's prepared maternal-child clinical nurse specialists.

Mothers received APN follow-up using 2-way cell phone contact and texting on post-hospital discharge days 3, 7, 14, 21, and then monthly to month 6. These contact points were established based on times of common infant morbidities within the first 2-6 months of life that result in acute care visits or rehospitalizations (Hannan, 2013; Paul, Lehman, Hollenbeak, & Maisels, 2006; Zubrick et al., 2008). Mothers were also able to contact the APNs by cell phone (voice or text) Monday through Saturday 9 a.m. to 5 p.m. with any infant health concerns. Following the protocol, intervention group mothers received a minimum of 10 two-way APN cell phone calls in addition to text messaging over the 6 months post hospital discharge. A control group of mothers of normal full term newborns received usual post birth hospital discharge which included no routine follow-up or recording of mothers' concerns postpartum.

The High-Risk Pregnancy RCT (1991-1997: Brooten, Youngblut, Brown, Finkler, Neff, Madigan)

In this clinical trial women with high risk pregnancies in the intervention group received half of their prenatal care delivered by physicians in the prenatal clinic or the physicians' offices and half of their prenatal care delivered by APNs in the women's homes and one postpartum APN home visit (Brooten et al., 2001). Inclusion criteria were: women with high risk pregnancies due to pre-gestational or gestational diabetes mellitus, chronic hypertension (but not pregnancy-induced hypertension), diagnosed or at high risk of preterm labor and receiving prenatal care. Women at high risk for preterm labor included those with uterine fibroids, previous preterm labor, multiple pregnancy, or a score of 10 or greater on a modified Creasy screening tool. All women spoke English and had access to a telephone. Mothers in the original trial were excluded from this secondary analysis if they had a preterm birth or multiple births. APN care for the intervention group (pregnancy to 8 weeks postpartum) included teaching, counseling, telephone outreach and daily telephone availability of the APNs with physician backup. The APNs were master's prepared perinatal clinical nurse specialists in a state and at a time when APNs did not have prescriptive privileges. Women in the control group received usual prenatal care delivered by physicians in their offices or in the clinic and usual post birth hospital discharge which included no routine follow-up, home visit or recording of mothers' concerns postpartum.

In both trials, APNs providing the intervention recorded in interaction logs, as close to verbatim as possible, discussions with women during telephone and face-to-face contacts and the content of text messages in the 2015 study. The logs documented care provided by APNs during each contact including the reason and duration for each contact, who initiated the contact, discussion between the women and the APNs, and outcome of the contact. The present study examines mothers' postpartum concerns over 8 weeks postpartum in two intervention groups of mothers with full term newborns. The 2 clinical trials were completed 18 years apart.

Content analyses were performed on all interaction logs from intervention group mothers in both trials. Each mother's log was analyzed individually with the contact as the unit of analysis by 1 PhD prepared nurse and 2 Masters prepared nurses with clinical expertise with new mothers and infants. The text of the interaction between the APN and the mother at each contact was divided into the smallest word or phrase that contained a single concern by the 2 Masters prepared nurses who first coded the logs individually then compared and discussed their codes for each contact with the PhD prepared nurse. Any coding inconsistencies were reviewed and discussed by the 3-coder team until they reached consensus. Decision logs were maintained throughout the coding. Interrater-rater agreement was maintained at 80% or greater throughout the coding.

Results

Sample Characteristics

The 58 mothers in the 1997 trial and the 63 mothers in the 2015 trial did not differ significantly in age or age ranges. See Table 1. Slightly more mothers in the 1997 sample were not partnered yet their reported significant support was the partner while in the 2015 sample their mothers were their main support. Most mothers in the 1997 sample were African American (95%) while most mothers in the 2015 sample were Hispanic (52%) followed by African American (21%). The majority of mothers in both groups had a high school education or less and most were not employed. While both groups reported an annual income less than \$30,000, the difference in time periods suggests that mothers in the 1997 study may have had greater buying power than those in the 2015 study. Most mothers in the 1997 sample had public health insurance; while most mothers in the 2015 sample had no health insurance. Most of the 2015 sample were experiencing a delay in Medicaid coverage in mainly due to changes in required documentation.

Postpartum Concerns

In the 1997 study there were 142 maternal concerns, 129 infant concerns, and 42 situational concerns compared to 43 maternal concerns, 144 infant concerns, and 41 situational concerns in the 2015 study. See Table 2. With the exception of postpartum pain which was a concern in both studies, maternal concerns differed considerably across studies. See Table 2. In the 2015 study mothers' concerns focused on not having help, being tired or fatigued, and finding things hard. Maternal concerns in the 1997 study focused on body changes, birth control, breastfeeding and maternal health problems, likely because their pregnancies were high-risk. Some concerns were due to pre-existing chronic conditions (hypertension, diabetes) and others, gestational diabetes that have effects on the mother's health during and after pregnancy.

In both groups 4 of the top 5 infant concerns were the same with infant feeding as the top infant concern in both groups. In the 1997 study infant infection was a top concern while in the 2015 study infant temperament was a top concern. Situational concerns regarding financial problems were reported in both groups; however, the mothers' concerns in the 2015 study were focused heavily on not having health care insurance, not having a physician for the mother and newborn, and problems with transportation.

Limitations

Although both studies had samples of primarily minority mothers, most of the mothers were African American in the 1997 trial and Hispanic in the 2015 trial. Most of the Hispanic mothers in the First-Time Mother RCT had limited English proficiency, as do 63% of Hispanics in the US (Zong & Batalova, 2015). The African American mothers in the High-Risk Pregnancy RCT did not have language issues. The data collection and APN intervention for Hispanic mothers were done by study personnel fluent in Spanish and English, minimizing the effect of language on the study. However, mothers with limited English proficiency may have more difficulty accessing the health care system and applying for Medicaid and WIC. This difference could account for the greater concerns about the lack of healthcare coverage in the First-Time Mother RCT than in the High-Risk Pregnancy RCT. In addition, changes in the delivery and funding of healthcare from 1997 to 2015 may make access to care more challenging today than previously.

Discussion

In these studies, conducted 18 years apart with mainly minority mothers, postpartum concerns regarding infant care were largely the same with infant feeding as the top concern for both. Mothers' postpartum pain also was a concern for both groups. Other maternal concerns differed. In the largely Hispanic 2015 RCT, mothers' concerns were fatigue, lack of help, and finding things hard, while in the primarily African American 1997 RCT, maternal concerns were more reflective of their physiological health challenges. The 1997 mothers' concerns likely reflect the effects of their high risk pregnancies and the underlying conditions of diabetes or hypertension. These co-morbid conditions often cause physical and physiologic threats to the mother and fetus during pregnancy and for the mother postpartum. That these mothers voiced more concerns about their own health than the 2015 mothers with low risk pregnancies is not surprising.

Mothers in both studies had extended access to an APN via phone, and in the 2015 study, through texting. However, in the 1997 study, mothers received a postpartum home visit by an APN who assessed the mothers' and newborns' physical health and the mothers' coping and emotional health. While the APN is able to detect and treat problems early, the home assessment may have made mothers more aware of their own potential health problems. Mothers in the 2015 study had no home visit and APN postpartum care was provided via cell phone. Widespread availability and use of cell phones and texting may have made communication between the mothers and the APN in the 2015 study easier and faster than was possible in 1997. The greater access and easier use of the web for health information may also have decreased the number of concerns about their own health for the mothers in the 2015 RCT.

Infant feeding was a common infant care concern for mothers in both studies. Almost all of the mothers (96%) in the 2015 RCT and 37% of the mothers in the 1997 RCT were breastfeeding. In both studies, the breastfeeding rates were higher than the national rates at the time. In 1997 25% of African American mothers were breastfeeding nationally versus 37% for the African American mothers in the 1997 RCT (Centers for Disease Control and Prevention [CDC], 2006). In 2015 79% of Hispanic mothers breastfeed nationally versus

96% for the Hispanic mothers in the 2015 RCT (CDC, 2014). Researchers have reported that Hispanic immigrant mothers have high breastfeeding rates initially, but breastfeeding rates decrease as each US generation becomes more acculturated (Gorman, Madlensky, Jackson, Ganiats, & Boies, 2007; Harley, Stamm, & Eskenazi, 2007; Sussner, Lindsay, & Peterson, 2008). Breastfeeding rates tend to be lower in low income, less educated mothers (CDC, 2008). Support and education about breastfeeding by the APNs in both studies likely contributed to these higher-than-national rates.

Difficulties in accessing healthcare providers was a big concern for mothers in the 2015 RCT, but not for mothers in the 1997 RCT. In the 2015 study, the APNs facilitated access to physician care after the birth for mothers and their infants where needed. In the 1997 study, APNs provided half of antenatal physician care which necessitated frequent communication and joint problem-solving and care planning. Perhaps this working relationship between the APNs and the physicians facilitated finding healthcare providers for the mothers and their infants after delivery. Recent changes in health care coverage may have added to the difficulty the 2015 study's mothers faced in finding healthcare providers.

Implications for Nursing

Mothers in the 1997 High-Risk Pregnancy RCT and the 2015 First-Time Mother RCT had many of the same infant concerns with infant feeding a major concern in both studies. Other infant concerns included skin rash, respiratory concerns and elimination. Studies have found that greater APN mean time and contacts per patient that include health teaching, guidance, and counseling were related to greater improvements in patient outcomes and greater health care cost savings (Brooten, Youngblut, Deatrick, Naylor, and York, 2003). Other studies found that individual and/or group counseling from birth through 5 months of age improved mothers' handling of infant feeding problems (Haroon, Das, Salam, Imdad, and Bhutta, 2013). APNs are uniquely positioned to provide teaching and counseling about infant care and feeding practices during routine prenatal visits, as part of Lamaze or childbirth education classes, and at each well infant follow-up visit.

Mothers in both studies had financial struggles. The 2015 First-Time Mother RCT's mothers had concerns obtaining Medicaid whereas the mothers in the 1997 High-Risk Pregnancy RCT had concerns obtaining WIC. Healthcare providers with the knowledge that low income mothers and their infants may potentially have delayed Medicaid could provide mothers with information on local healthcare facilities that accept patients with delayed Medicaid.

Mothers in the 1997 High-Risk Pregnancy RCT had more concerns for their own health, while mothers in the 2015 First-Time Mother RCT had more concerns about lack of support. If new mothers have family members living outside the US, they may lack the available support they need. Talking with mothers about who is available to them locally to provide support and helping them to find groups who can provide support can help in enhancing their support. APNs have the knowledge and skills to address women's problems and concerns ranging from assessing maternal physiologic states to teaching interpersonal relationships and self-care management to assisting with transportation and housing. Initiating a discussion with low income mothers about their own health, their social support,

any financial problems or difficulties accessing the healthcare system may help them find workable solutions.

Conclusion

Mothers' postpartum concerns about their infant in two RCTs conducted 18 years apart were very similar with infant feeding as the top infant concern. Mothers in both postpartum groups were concerned about pain. Mothers who had a high risk pregnancy were concerned with body changes, birth control, breastfeeding and maternal health problems, while mothers with low risk pregnancies were focused on not having help, being tired or fatigued, and finding things hard. Mothers in both groups had problems accessing governmental programs to help new mothers and their infants.

Acknowledgments

Funded by: National Institutes of Health: Eunice Kennedy Shriver National Institute of Child Health & Human Development, SC2 HD076043 & National Institute of Nursing Research, R01-NR-02897.

References

- Bayrampo H, Heaman M, Duncan KA, Tough S. Advanced maternal age and risk perception: A qualitative study. *BMC Pregnancy and Childbirth*. 2012; doi: 10.1186/1471-2393-12-100
- Bekemeier B, Chen A, Kawakyu N, Yang YR. Local public health resource allocation: limited choices and strategic decisions. *American Journal of Preventive Medicine*. 2013; 5(6):769–75. DOI: 10.1016/j.amepre.2013.08.009
- Berg M. Pregnancy and diabetes: how women handle the challenges. *Journal of Perinatal Education*. 2005; 14:23–32. DOI: 10.1624/105812405X57552 [PubMed: 17273439]
- Bernard-Bonnin AC. Feeding problems of infants and toddlers. *Canadian Family Physician*. 2006; 52(10):1247–1251. [PubMed: 17279184]
- Brooten D, Youngblut JM, Brown L, Finkler SA, Neff DF, Madigan E. A Randomized Trial of Nurse Specialist Home Care for Women with High-Risk Pregnancies: Outcomes and Costs. *The American Journal of Managed Care*. 2001; 7(8):793–803. [PubMed: 11519238]
- Brooten D, Youngblut JM, Deatrck JA, Naylor M, York R. Patient problems, advanced practice nurse (APN) interventions, time and contacts among 5 patient groups. *Journal of Nursing Scholarship*. 2003; 35:73–79. PMC3541033. [PubMed: 12701530]
- Brooten D, Youngblut JM, Donahue D, Hamilton M, Hannan J, Neff DF. Women with high risk pregnancies, problems, and APN interventions. *Journal of Nursing Scholarship*. 2007; 39:349–357. PMC3532049. [PubMed: 18021136]
- Brooten D, Youngblut JM, Hannan J, Guido-Sanz F, Neff DF, Deoisres W. Health Problems and APN Interventions in Pregnant Women with Diabetes. *Pacific Rim International Journal of Nursing Research*. 2012; 16(2):85–96. [PubMed: 24660041]
- Campbell-Grossman C, Hudson D, Keating-Lefler R, Yank J, Obafunwa T. Community leaders' perceptions of Hispanic, single, low-income mothers' needs, concerns, social support, and interactions with health care services. *Issues in Comprehensive Pediatric Nursing*. 2009; 32:31–46. DOI: 10.1080/01460860802610194 [PubMed: 19263292]
- Carolan M, Nelson S. First mothering over 35 years: questioning the association of maternal age and pregnancy risk. *Health Care Women International*. 2007; 28:534–555. DOI: 10.1080/07399330701334356
- Center Disease Control and Prevention. Breast feeding report card. 2014. Retrieved August 5 2015, from: <http://www.cdc.gov/breastfeeding/pdf/2014breastfeedingreportcard.pdf>
- Centers for Disease Control and Prevention. Breastfeeding-related maternity practices at hospitals and birth centers—United States, 2007. *MMWR Morbidity Mortal Weekly Report*. 2008; 57:621–625.

- Centers for Disease Control and Prevention. QuickStats: Percentage of Infants Born During 1990--1993 and 1997--2000 Who Were Ever Breastfed, by Race/Ethnicity of Mother --- United States. *MMWR*. 2006; 55:1155. 2006. Retrieved on August 5 2015, from: <http://www.cdc.gov/datastatistics/2007/breastfeed/>.
- Denis A, Michaux P, Callahan S. Factors implicated in moderating the risk for depression and anxiety in high risk pregnancy. *Journal of Reproductive & Infant Psychology*. Apr; 2012 30(2):124–134 11p. serial online. DOI: 10.1080/02646838.2012.677020
- Ferrera, P.; Hunter, L. How ObamaCare Guts Medicare. *Wall Street Journal*. 2010. Retrieved from: <http://online.wsj.com/article/SB10001424052748703649004575437311393854940.html>
- Gorman JR, Madlensky L, Jackson DJ, Ganiats TG, Boies E. Early postpartum breastfeeding and acculturation among Hispanic women. *Birth*. 2007; 34:308–315. [PubMed: 18021146]
- Hannan J. APN telephone follow up to low- income first time mothers. *Journal of Clinical Nursing*. 2013; 22(1-2):262–270. DOI: 10.1111/j.1365-2702.2011.04065.x [PubMed: 22845337]
- Harley K, Stamm NL, Eskenazi B. The effect of time in the U.S. on the duration of breastfeeding in women of Mexican descent. *Maternal Child Health Journal*. 2007; 11:119–125. [PubMed: 17279324]
- Haroon J, Das JK, Salam RA, Imdad A, Bhutta ZA. Breastfeeding promotion interventions and breastfeeding practices: a systematic review. *BMC Public Health*. 2013; 13(Suppl 3):S20.doi: 10.1186/1471-2458-13-S3-S20 [PubMed: 24564836]
- Hiser PL. Maternal concerns during the early postpartum. *Journal of the American Academy of Nurse Practitioners*. 2007; 3(4):166–173. DOI: 10.1111/j.1745-7599.1991.tb01096.x
- Howell EA. Lack of patient preparation for the postpartum period and patients' satisfaction with their obstetric clinicians. *Obstetrics and Gynecology*. 2010; 115(2 Pt 1):284–9. DOI: 10.1097/AOG.0b013e3181c8b39b [PubMed: 20093900]
- Insana S, Costello C, Montgomery-Downs H. Perception of partner sleep and mood: Postpartum couples' relationship satisfaction. *Journal of Sex and Marital Therapy*. 2011; 37(5):428–440. DOI: 10.1080/0092623X.2011.607053 [PubMed: 21961447]
- Kaitz M. Maternal concerns during early parenthood. *Child: Care, Health & Development*. 2007; 33(6):720–727. DOI: 10.1111/j.1365-2214.2007.00729.x
- Kanotra S, D'Angelo D, Phares TM, Morrow B, Barfield WD, Lansky A. Challenges faced by new mothers in the early postpartum period: An analysis of comment data from the 2000 pregnancy risk assessment monitoring system (PRAMS) survey. *Maternal Child Health Journal*. 2007; 11(6): 549–558. [PubMed: 17562155]
- Lange U, Schnepf W, Zu Sayn-Wittgenstein F. The experiences of chronically ill women in the time of pregnancy, birth and postnatal period - a review of qualitative studies. *Z Geburtshilfe Neonatologie*. 2015; 219(4):161–9. DOI: 10.1055/s-0034-1398632
- Loprest, P.; Zedlewski, S.; Schaner, S. Mental health. Urban Institute; Washington, DC: 2007. Work and mental health service use among low-income mothers. Retrieved on July 28, 2015 from: <http://www.urban.org/research/publication/mental-health-work-and-mental-health-service-use-among-low-income-mothers>
- Manukam R, Perman JA. Pediatric feeding disorders. *Journal of Clinical Gastroenterology*. 2000; 30(1):34–46. [PubMed: 10636208]
- Martin A, Horowitz C, Balbierz A, Howell EA. Views of Women and Clinicians on Postpartum Preparation and Recovery. *Maternal and Child Health Journal*. 2014; 18(3):707–713. DOI: 10.1007/s10995-013-1297-7 [PubMed: 23775250]
- Negron R, Martin A, Almog M, Balbierz A, Howell E. Social support during the postpartum period: Mothers' views on needs, expectations, and mobilization of support. *Maternal Child Health Journal*. 2012; 17(4):616–623. DOI: 10.1007/s10995-012-1037-4
- Nightingale S, Fix M. Economic and labor market trends. *The Future of Children*. 2004; 14(2):49–59. Retrieved on July 28 2015 from: <http://files.eric.ed.gov/fulltext/EJ795833.pdf>.
- Osman H, Chaaya M, Zein LE, Naassan G, Wick L. What do first-time mothers worry about? A study of usage patterns and content of calls made to a postpartum support telephone hotline. *Biomed Central Public Health*. 2010; 10(611):1–6. DOI: 10.1186/1471-2458-10-611 [PubMed: 20043862]

- Paul IM, Downs DS, Schaefer EW, Beiler JS, Weisman CS. Postpartum anxiety and maternal-infant health outcomes. *Academy of Pediatrics*. 2015; 131(4):1218–1224. DOI: 10.1542/peds.2012-2147
- Paul I, Lehman E, Hollenbeak C, Maisels J. Preventable newborn readmissions: Passage of the newborns' and mothers' health protection act. *Pediatrics*. 2006; 118(6):2349–2358. DOI: 10.1542/peds.2006-2043 [PubMed: 17142518]
- Petch JF, Halford WK, Creedy DK, Gamble J. A randomized controlled trial of a couple relationship and coparenting program (Couple CARE for Parents) for high- and low-risk new parents. *Journal of Consulting and Clinical Psychology*. 2012; 80(4):662–73. DOI: 10.1037/a0028781 [PubMed: 22730950]
- Rudowitz, R.; Artiga, S.; Arguello, R. Issue Brief. Henry J. Kaiser family Foundation; 2014. Children's Health Coverage: Medicaid, CHIP and the ACA. Retrieved on July 28, 2015 from: https://kaiserfamilyfoundation.files.wordpress.com/2014/03/8570-children_s-health-coverage-medicaid-chip-and-the-aca1.pdf
- Rumbold AR, Crowther CA. Women's experiences of being screened for gestational diabetes mellitus. *Australian and New Zealand Journal of Obstetrics and Gynecology*. 2002; 42:131–137. DOI: 10.1111/j.0004-8666.2002.00131.x
- Sink K. Seeking newborn information as a resource for maternal support. *The Journal of Perinatal Education*. 2009; 18(3):30–38. DOI: 10.1624/105812409X461207 [PubMed: 20514119]
- Sturdevant, M. Hartford Courant; 2015. Hartford Healthcare Blasts State Budget, Saying it will Cause Job Cuts, Fewer Services. Available from: <http://www.courant.com/health/hc-hartford-healthcare-blasts-budget-20150609-story.html> [Assessed July 8, 2014]
- Sussner KM, Lindsay AC, Peterson KE. The influence of acculturation on breast-feeding initiation and duration in low-income women in the US. *Journal of Biosocial Science*. 2008; 40:673–696. [PubMed: 18045509]
- Sword W, Watt S, Krueger P. Postpartum health, service needs, and access to care experiences of immigrant and Canadian-born women. *Journal of Obstetric Gynecologic and Neonatal Nursing*. 2006; 35(6):717–27. DOI: 10.1111/j.1552-6909.2006.00092.x
- Trivedi AM, Rakowski W, Ayanian JZ. Requirement for cost-sharing reduces use of mammography among some groups of women. *New England Journal of Medicine*. 2008; 358(4):375–383. DOI: 10.1056/NEJMc080398 [PubMed: 18216358]
- World Health Organization [WHO]. Maternal Mortality. 2014. Fact sheet 348, updated May 2014. Retrieved July 28, 2015 from: <http://www.who.int/mediacentre/factsheets/fs348/en/>
- Zong, J.; Batalova, J. Migration Policy Institute; Washington, DC: 2015. The Limited English Proficient Population in the United States. Retrieved on July 28, 2015 from: <http://www.migrationpolicy.org/article/limited-english-proficient-population-united-states#Age, Race, and Ethnicity>
- Zubrick, SR.; Smith, GJ.; Nicholson, JM.; Sanson, AV.; Jackiewicz, TA. the LSAC Research Consortium. Social Policy Research Paper No 34 Parenting and families in Australia. Canberra: Australian Government Department of Families, Housing, Community Services and Indigenous Affairs; 2008.

Table 1
Intervention-group Mothers' Characteristics

	1997 High Risk Pregnancy N = 58	2015 First-Time Mothers N = 63	Statistics
Age (years) <i>M(SD)</i>	27.1 (6.1)	25.0 (5.5)	$t = 2.04$
Range (years)	15 - 40	18 - 42	
Partner Status ^a			$\chi^2 = 6.74^*$
Partnered	7 (12.1 %)	19 (31.7%)	
Not Partnered	51 (87.9 %)	41 (68.4%)	
Race			$\chi^2 = 55.2^{**}$
Black	55 (94.8%)	22 (34.9%)	
Hispanic	0	40 (63.5%)	
White	2 (3.5%)	1 (1.6%)	
Other	1 (1.7%)	0	
Income ^a			$\chi^2 = 0.39$
< \$10,000	32 (62.7%)	41 (74.5%)	
\$10,000 - \$29,999	16 (31.4%)	14 (25.4%)	
\$30,000 - \$50,000	2 (3.4%)	0 (0%)	
> \$50,000	1 (1.7%)	0 (%)	
Employment			$\chi^2 = 0.50$
Employed	13 (22.4%)	11 (17.5%)	
Not Employed	45 (77.6%)	52 (82.5%)	
Insurance ^a			$\chi^2 = 83.4^{**}$
Public	47 (81.0%)	11 (17.4%)	
Private	7 (12.1%)	0 (0%)	
No Insurance	0 (0%)	52 (82.6%)	
Education			$\chi^2 = 3.32$
High School or less	22 (38.0%)	16 (27.1%)	
High School Grad	16 (27.6%)	24 (40.7%)	
Some College	17 (29.3%)	14 (23.7%)	
College grad or >	3 (5.1%)	5 (8.5%)	
Gravida			
1	39 (67.2%)	56 (88.8%)	$\chi^2 = 2.49$
2 or more	19 (32.8%)	7 (11.1%)	
Delivery Type	$n = 53$ (%)	$n = 63$	
Vaginal	32 (63.8%)	49 (77.8 %)	$\chi^2 = 3.35$
C-section	21 (36.2%)	14 (22.2%)	
Infants			
Birth Weight <i>M(SD)</i>	7.27 (1.1)	7.08 (1.0)	$t = 0.83$
Gestational Age <i>M(SD)</i>	38.8 (1.0)	38.9 (1.5)	$t = .572$
Feeding Method			
Breast	20 (37.0%)	52 (95.6%)	$\chi^2 = 14.33^{**}$

	1997 High Risk Pregnancy N = 58	2015 First-Time Mothers N = 63	Statistics
Bottle	34 (63.1%)	3 (5.4%)	
	Partner <i>n</i> = 29 (50%)	Mother <i>n</i> = 28 (44.4%)	$\chi^2 = 10.2^{**}$
2 Most Common Significant Other ^{<i>b</i>}	Mother <i>n</i> = 16 (27.6%)	Partner <i>n</i> = 14 (22.2%)	

* *p* < .01,

** *p* < .001,

^{*a*} Not all answered the question

^{*b*} More Significant Others documented

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 2
Comparison of Top 5 Postpartum Concerns

High Risk Pregnancy Study	N = 313	First Time Mothers Study	N = 278
Infant Concerns	<i>n</i> = 129 (%)	Infant Concerns	<i>n</i> = 144 (%)
Feeding	28 (21.7%)	Feeding	34 (23.9%)
Skin rash	11 (8.5%)	Respiratory	23 (16.2%)
Respiratory	10 (7.7%)	Elimination	21 (14.8%)
Infection	8 (6.2%)	Temperament (crying, fussy)	13 (9.1%)
Elimination	8 (6.2%)	Skin rash	12 (8.4%)
Maternal Concerns	<i>n</i> = 142 (%)	Maternal Concerns	<i>n</i> = 43 (%)
Body changes	26 (18.3%)	No Help/support	20 (46.5%)
Birth Control	19 (13.6%)	Tired/Fatigued/Sleep	9 (20.9%)
Post Delivery Pain	16 (11.2%)	Post Delivery Care/Pain	9 (20.9%)
Health Problems	14 (9.8%)	Infection/illness postpartum	5 (11.6%)
Breast Feeding	12 (8.4%)	Very Hard/Anger	3 (6.9%)
Situational Concerns	<i>n</i> = 42	Situational Concerns	<i>n</i> = 41
Financial Problems	10 (23.8%)	Medicaid/No insurance	18 (43.9%)
Obtaining WIC	9 (21.4%)	No MD mother/Infant	12 (29.3%)
Hospital Patient Care	6 (14.3%)	Financial problems	7 (17.1%)
Other Children at Home*	4 (9.5%)	No Transportation	4 (9.7%)
Hospital stay short/long	3 (7.1%)	Obtaining WIC	3 (4.8%)

* 2015 study was of first-time mothers. No other children at home.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript