

Background

Traditional prenatal care (PNC) has been the mainstay of obstetric clinical practice in the U.S. for over a century and typically consists of an initial visit where complete medical history and a physical examination are documented, followed by a series of brief (10-15 min) visits at periodic intervals throughout pregnancy (1). In this model, providers have limited time for health promotion counseling and psychosocial intervention (1-2). Moreover, there is a growing body of evidence showing that this model has little to no effect on pregnancy outcomes, such as low birthweight (LBW) and preterm birth (PTB) – the primary objectives of contemporary prenatal care.



CenteringPregnancy (CP) is an innovative, patient-centered group model of PNC that incorporates medical aspects of traditional care which are enhanced by education, support, and empowerment. Both observational studies and RCT's have shown that group PNC has had a number of positive effects on pregnancy and health behavior outcomes, including:

- Reducing rates of PTB and LBW (3)
- Improving prenatal knowledge and patient satisfaction (3)
- Increasing use of postpartum family planning (3)
- Increasing rates of breastfeeding initiation (1,3-4)
- Greater effects on all of the above outcomes in younger, Black/African-American women (3)

CP represents a paradigm shift in PNC delivery and consists of the following key components:

- Groups visits with 8-12 pregnant women of similar gestational age
- 10 two-hour group sessions during second and third trimesters, at same periodic intervals as traditional care
- Patient autonomy: each woman takes her own blood pressure and weight at each session
- Facilitative leadership and curriculum-based group discussion
- Socialization amongst pregnant women

Introduction

The Family Health Center of Worcester, MA (FHCW) is home to a multicultural patient population. FHCW began utilizing CP to deliver a portion of their prenatal care in 2007, after identifying an opportunity to improve pregnancy outcomes in certain demographic groups. The Center then became an accredited CP site in 2010 and hosts, on average, 6-8 Centering groups annually, with a total of 50-80 CP patients and 200-300 traditional patients each year.

The aim of our study is to closely examine and better understand the pregnancy and health behavior outcomes for women participating in Centering in order to improve implementation of this model at FHCW.

Materials & Methods

This study is a retrospective chart review of prenatal, delivery and postpartum data for all pregnant women who entered prenatal care at the FHCW since January 2007 and who delivered at UMass Memorial Hospital by December 2016. We will be examining how participation in group prenatal care relates to a number of pregnancy and health behavior outcomes (see bottom). Logistic regression analyses will be implemented in SPSS statistical package.

Preparing the data for statistical analysis involved:

- Meeting with statistician to determine data preparation plan
- Standardizing definitions of "timely" postpartum visit attendance and postpartum depression (see bottom)
- Deciding how to report race/ethnicity data
- Performing feasibility check with 2016 data before extracting full dataset from Access database
- Meeting with Medical Records staff to determine definitions of missing codes

Demographic Information:
 -Age at delivery
 -Race
 -Ethnicity/Country of origin
 -Gravidity/Parity



Preliminary Findings

There were a number of logistical issues that had to be solved before starting the statistical analysis:

- Missing data
- Inconsistencies in data collection – race/ethnicity, breastfeeding status, postpartum depression
- Lack of clarity in outcome definitions – "timely" postpartum visit attendance, postpartum depression

Despite these shortcomings, we did make a few preliminary observations:

- ~ >90% nulliparous mothers in CP cohort, considerably more than in non-CP cohort
- ~40-50% of mothers in cohort gave birth more than once during study period ("duplicate mothers")

Conclusions/Future Directions

In preparing the data for statistical analysis this summer, our team at FHCW has recognized the need for streamlining and standardizing workflow processes and outcome definitions that we use in order to streamline further data collection. Ultimately, identifying what effects, if any, CP has had on this particular patient population will allow us to determine strategies for further expansion and implementation of CP at FHCW.

Future directions for research will include:

- ★ Consider alternative unit of analysis due to prevalence of duplicate mothers (i.e., 'births' instead of 'mothers')
- ★ Utilize SPSS to make comparisons between CP patients and non-CP patients by each outcome
- ★ Utilize logistic regression analysis to compare CP patients and non-CP patients by all outcomes
- ★ Standardize collection of race/ethnicity, feeding, postpartum depression data among providers at FHCW
- ★ Further analyze and explore CP effects on women by race/ethnicity (not solely U.S. Born and non-U.S. born)

References

1. Novick G et. al. In a hard spot: providing group prenatal care in two urban clinics. *Midwifery*. 2013 Jun;29(6):690-7.
2. Chen L et. al. Centering and Racial Disparities (CRADLE study): rationale and design of a randomized controlled trial of centeringpregnancy and birth outcomes. *BMC Pregnancy Childbirth*. 2017 Apr 13;17(1):118.
3. Mazzoni SE et. al. Group prenatal care. *Am J Obstet Gynecol*. 2017 Jun;216(6):552-556.
4. Picklesimer A et. al. Group prenatal care: has its time come? *Clin Obstet Gynecol*. 2015 Jun;58(2):380-91.

Primary Outcomes:
 -Low birthweight (< 2500 g)
 -Preterm birth (< 37 wks. gestational age)

Secondary Outcomes:
 -Postpartum depression (PHQ-9 or EPDS score >10)
 -Any breastfeeding at various postpartum intervals
 -Timely attendance at postpartum visit (within 21-56 days post-delivery)