An Observational Study of the Complementary Pregnancy Outcomes of Patients Enrolled in CenteringPregnancy

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Abstract

Objective: CenteringPregnancy (CP), a group prenatal care model, has reported improved birth-related outcomes, specifically decreased preterm delivery rates. To date, data is limited regarding the complementary benefits of CP. The primary objective of this observational study was to investigate breastfeeding, immunization, and postpartum contraception utilization rates in CP participants. The secondary objective was to investigate preterm delivery rates.

Materials and Methods: Eighty-five women receiving CP care within an academic institution, who delivered between September 2015 and May 2016 were included for analysis.

Results: The breastfeeding initiation rate was 96.5%. The postpartum breastfeeding continuation rate was 62%. Influenza vaccination rate was 67% and Tdap vaccination rate was 68%. Contraceptive initiation rates were 72% overall, with 25% electing LARC. Finally, the preterm delivery rate in the study population was 10.6%.

Conclusion: This study demonstrated higher than expected rates of breastfeeding initiation and continuation, immunization rates, and contraceptive rates specifically LARC. The preterm delivery rate of this study population was similar to traditional care within this community. CenteringPregnancy offers complementary benefits to the health of women and infants outside of the previously reported Centering outcomes.

Keywords: CenteringPregnancy; Group prenatal care; Immunization rates; Breastfeeding rates; Preterm delivery

Introduction

CenteringPregnancy (CP) is a prenatal care model that integrates three major components – health assessment, education, and support – into a unified program within a group setting. CP was founded in the early 1990’s by Sharon Rising, a mid-wife, who envisioned group care as a way to increase access to prenatal care, prenatal education, and social support [1,2]. During a CP session, health assessments occur within a group space, and patients engage in self-care activities. Each session has a suggested format of discussion topics; however, the emphasis may vary. Time is set aside for socializing, allowing patients to connect and establish relationships with peers. For a provider, the CP model allows more time with every patient; in the traditional model, generally less than 10 minutes is spent face-to-face between provider and patient. In contrast, the CP model affords 90-120 minute face-to-face time between provider and multiple patients, allowing greater opportunity for interaction, education, and sharing of information [3].

Ickovics et al, showed a 33% reduction in the odds of preterm birth with CP compared to traditional prenatal care. They also found that patients felt more prepared for labor and delivery, had greater satisfaction with their healthcare, had increased prenatal knowledge, and higher breast-feeding initiation rates [4]. Chae et al, also noted higher breastfeeding rates in CP patients [5]. Hale et al. published supporting evidence that group prenatal care in Medicaid recipients improved utilization of preventive health services including family-planning services, specifically in non-Hispanic black women [6]. Studies specifically examining pregnant teens enrolled in CP have shown improved outcomes in the number of small for gestational age infants, gestational age at delivery, birth weight, days in neonatal intensive care unit, rapid repeat pregnancy, condom use, and unprotected sex [7]. Trotman et al reported that CP care in their adolescent study population resulted in increased compliance with prenatal appointments, appropriate weight gain, increased uptake of highly effective contraception, and increased breastfeeding among adolescent mothers [8].

The primary objective of this study was to investigate whether group prenatal care via CP would result in improved breastfeeding rates, immunization rates, and postpartum contraception utilization rates in patients within our community. The secondary objective of this study was to investigate the preterm delivery rate of CP participants since CP reports decreased preterm delivery rates compared to traditional prenatal care.

Materials and Methods

Approval for this study was obtained from the University of Florida Institutional Review Board (IRB). This observational study occurred within an academic tertiary center in north-central Florida.

All patients meeting inclusion criteria, seen within our clinic at UF Health for new OB registration from February 2015 to October 2015 were given CP literature and offered participation in this mode of prenatal care. Patients were again offered participation at their new OB visit if they were not yet committed to a mode of prenatal care. Inclusion criteria included women who would be at 12-16 weeks gestation at Group Session 1. Patients were allowed to join an existing group up to Session 4 if there was availability and if they were less than 28 weeks gestation by Session 4. Patients were not segregated according to maternal age, parity, or insurance status. Patients were excluded from the study if they were greater than 28 weeks gestation, if they were deemed high-risk by the protocol of the clinic; high risk criteria included pre-gestational diabetes, chronic hypertension, congenital fetal anomalies, history of incompetent cervix, HIV, hepatitis, autoimmune disorders, or cardiovascular disorders. All patients electing to participate in CP care had an initial OB visit in the traditional care model in which a full history and physical was performed within an individual appointment. All CP providers completed formal training provided by the Centering Healthcare Institute. During Session 1 of each CP group, patients were given information about our study, and those who wished to participate signed IRB informed consents. Visits were scheduled every four weeks for patients at gestational ages 12-28 weeks, then every 2 weeks until delivery, with each session lasting 90 minutes. If additional visits were deemed necessary, individual appointments could be scheduled via the traditional care model. Each session addressed specific topics according to the Centering Healthcare Institute’s CP curriculum that incorporated education, group discussion, and skill-building. A reunion session, which included the postpartum exam, was held at 6 weeks postpartum, giving a total of 11 group sessions. Data was collected for each patient enrolled in CP during the postpartum period so that all measures could be assessed. A total of 88 patients enrolled in CP care during the study period and 85 patients were included in the study (Table 1). IRB
Data regarding vaccination rates in pregnancy is limited. The CDC published data reporting approximately 52% of pregnant study participants received influenza vaccination in 2013-2014 [11]. The CDC also published a report in 2015 showing approximately 53% of pregnant study participants receiving Tdap vaccination [12]. Women enrolled in CenteringPregnancy were more likely than not to receive influenza and Tdap vaccinations, 67% and 68%. Our rates are notably higher than those noted by the CDC, although our study population is smaller.

Contraceptive initiation rates in our study, specifically for LARC were very encouraging. Limited data suggests approximately 1.9-25% of postpartum women elect to use LARC as their mode of contraception [13]. Our study showed a large percentage of women choosing this form of contraception, 25% of all women in the study, and 32% of younger women ages 18-21. This is notable, as LARC would not only be expected to increase inter-pregnancy intervals in the future, likely

Table 1: CenteringPregnancy Participant Demographics.

<table>
<thead>
<tr>
<th>Table 1: CenteringPregnancy Participant Demographics.</th>
<th>Percentage of patients (%)</th>
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</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>18-21 years</td>
<td>23.5</td>
</tr>
<tr>
<td>21-50 years</td>
<td>76.5</td>
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<tr>
<td>Race</td>
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<tr>
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<td>58</td>
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<tr>
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<td>Asian</td>
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<td>Insurance Status</td>
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</tr>
<tr>
<td>Privately insured</td>
<td>21.7</td>
</tr>
<tr>
<td>Self-pay</td>
<td>4.3</td>
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table was also analyzed for CP participants ages 18-21. In this subgroup of 20 women, 95% initiated breastfeeding and 42% continued to breastfeed at their postpartum appointment. Forty-five percent of participants received the influenza vaccine and 60% received the Tdap vaccine. Regarding contraceptive utilization, 89% received contraception, with 32% choosing LARC. No women underwent tubal ligation. The preterm delivery rate for this subgroup was 20% (Table 2).

Conclusions

Observational data from this study reveals promising results. Compared to baseline state and county data of 84% and 85.5% respectively [9], there is a trend towards improved breastfeeding initiation rates in CP patients, with 96.5% of CP patients initiating breastfeeding (Figure 1). This observation is consistent with published literature [10]. Even more encouraging are the breastfeeding initiation rates in CP participants ages 18-21 years (Figure 2). Likewise, continuation rates seen in the study population, illustrating 62% of CP participants were still breastfeeding at their postpartum visit are very positive. It is important to note that these notable increased rates may also be attributed to the classification of our institution as Baby Friendly in February 2015. However, institutional data available for this time period, which includes a random sampling of deliveries at UF Health show an approximate breastfeeding initiation rate of 86.5%. Breastfeeding outcomes could further be examined via a study comparing the CP group to a traditional care cohort within the same institution which would provide important data as to the relevance of Centering to these outcomes.

Figure 1: Comparison of Breastfeeding Initiation Rates: CenteringPregnancy Participants, State, and County Data.

Figure 2: Comparison of Breastfeeding Initiation Rates in Ages 18-21 Years: CenteringPregnancy Participants, State, and County Data.
resulting in a decreased risk of future preterm delivery, but would also decrease the incidence of unintended pregnancies in these patients.

Our study was not able to document a lower preterm delivery rate than that for the state or county. The preterm delivery rate noted for the study participants was 10.6%. It was 10% and 9.9% for the state and county respectively during the study period as noted in FloridaCharts [14] (Figure 3). Interestingly, the preterm delivery rate of patients ages 18-21 was higher than expected, at 20%. FloridaCharts noted a state percentage of 9.6 and county percentage of 13 in preterm delivery rates in women ages 18-21. This notably higher preterm delivery rate in the study population may be a result of the small sample size of 20 patients. Regardless, this warrants further investigation and study with a larger number of patients.

Data reported in this study is encouraging and illustrates the need for further research in this area. As noted previously, a major limitation of this study is that it lacks a comparison group that would permit statistical analysis thereby determining whether the findings are indeed significant. The purpose of this study was observational in nature, to provide baseline data for further research.

In addition to continued research into the primary outcomes of this study, there are other possible gains that deserve further investigation, such as the psychosocial benefits of CP. Heberlein et al. have provided evidence that group prenatal care positively impacts the psychosocial well-being of women who have greater stress or lower personal coping resources [9].

Continuing to offer CP to patients will increase the volume of data available for study, and will allow investigators to further determine whether there are additional and complementary benefits to CenteringPregnancy.

Acknowledgements
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Figure 3: Comparison of Preterm Delivery Rates: CenteringPregnancy Participants, State, and County Data.

References