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The Impact of Introducing *Centering Pregnancy* in a Community Health Setting: A Qualitative Study of Experiences and Perspectives of Health Center Clinical and Support Staff

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Abstract *Objectives* Introducing new programming into an existing setting may be challenging. Understanding how staff and clinicians who are not directly involved in program delivery view the program can help support program implementation. This study aimed to understand how peripheral staff and clinicians perceived a newly implemented *Centering Pregnancy* group prenatal care program in a community-based health center and its impact on clinic operations. *Methods* Semi-structured interviews were conducted with a purposive sample of 12 staff members at a community-based health center. The interview guide covered topics such as perceptions of *Centering Pregnancy* and how the program impacted their work. An interpretive description approach was used to analyze the interview data. A coding framework was developed iteratively and all interview data were analyzed independently by multiple researchers. *Results* Staff had overall positive perceptions of *Centering Pregnancy*, but the level of understanding about the program varied widely. Most respondents viewed the *Centering Pregnancy* program as separate from other programs offered by the clinic, which created both opportunities and challenges. Opportunities included increased cross-referrals between established services and *Centering Pregnancy*. Challenges included a lack of communication about responsibilities of staff in relation to *Centering Pregnancy* patients. Impact on staff and overall clinic operations was perceived to be minimal to moderate, and most tensions related to roles and expectations were resolved. *Conclusions for Practice* Clear communication regarding fit within clinic structures and processes and expectations of staff in relation to the program was critical to the integration of *Centering Pregnancy* program into an established health center.

Keywords Prenatal care · Program evaluation · Communication · Centering pregnancy

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Significance

What's known on this topic: While *Centering Pregnancy* has been successfully implemented in multiple international health care settings, few studies outline the impact transitioning to this model of care had on peripheral staff in their clinic.

What this study adds: This study describes the challenges and opportunities encountered as a health care center implemented *Centering Pregnancy* and outlines the strategies used to successfully overcome obstacles.

Introduction

Centering Pregnancy (CP) is an innovative model of group prenatal care that combines assessment, education and support (Rising 1998). In contrast to traditional individual care, where patients interact one-on-one with a health professional, in CP women are grouped together by gestational age to receive care. In addition to receiving prenatal care, CP participants become actively involved in their health and pregnancy, develop a support network, and learn infant and child care skills (Rising 1998; Ruiz-Mirazo et al. 2012; Teate et al. 2011). Previous research has demonstrated a range of benefits and positive health outcomes for women who have participated in CP and other forms of group prenatal care, including: improvement in mental health, greater satisfaction with care, improved overall prenatal knowledge, and ownership of care (Benediktsson et al. 2013; Cunningham et al. 2016; Homer et al. 2012; Ickovics et al. 2007; McNeil et al. 2012; Picklesimer et al. 2012; Ruiz-Mirazo et al. 2012). There is mixed evidence that group prenatal care results in decreased risk of preterm birth, small for gestational age, low birthweight and reduction in Caesarean sections (Carter et al. 2016; Homer et al. 2012; Ickovics et al. 2007, 2016; Picklesimer et al. 2012; Ruiz-Mirazo et al. 2012). The model has also been viewed positively by health care providers, as it enabled better communication, shared ownership of care, and provided more time with patients (McNeil et al. 2013; Teate et al. 2013).

A key strength of the CP model is its adaptability to a variety of health care systems. The model has been well accepted and implemented within a number of health care clinics across North America (Benediktsson et al. 2013; Novick et al. 2013; Tandon et al. 2013), Australia (Allen et al. 2015; Maier 2013; Teate et al. 2013), United Kingdom (Gaudion et al. 2011a, b), and Africa (Patil et al. 2013). While CP is appropriate and acceptable for introduction into a range of health care settings, there is evidence that some factors influence successful implementation including: how well it is received by women, clinic staff and health professionals; the extent of their engagement; and the level of integration within the existing context. Introducing group prenatal care into an already existing and often busy health clinic may be challenging due to resource constraints; scheduling challenges; and staff buy-in (Klima et al. 2009; Novick et al. 2013, 2015; Phillippi and Myers 2013; Tilden et al. 2014; Vonderheid et al. 2013).

Although most published studies report successful uptake and implementation of CP into their setting, few outline the impact it had on their clinic while they were transitioning to this model of care. It is important to consider the perspective of the staff within these health care facilities who may or may not recognize the potential benefits of the CP model, but nonetheless are impacted by the introduction of a potentially new component to their work. To date, no studies have reported the perspectives or experiences of clinicians and support staff in such settings who are not directly involved in implementation or delivery of CP, but who may still be impacted by its implementation.

Focusing on one community based health care center in urban Calgary Alberta Canada where a CP program was implemented in 2014, we undertook this study to gain a better understanding of the impact of introducing CP into an existing health center. Our objective was to explore and describe how clinical and support staff who were not directly involved in program delivery, experienced the newly implemented CP program and what impact (if any) they perceived it had on their roles and clinic operations.

Methods

A qualitative study design based on interpretative description (Thorne 2008; Thorne et al. 1997) was applied to address the study objectives. Interpretative description enables an in-depth exploration of participants' day to day experiences and their perceptions related to the CP program and its inclusion within their clinical setting. Going beyond description alone, interpretative description aims to explore meaning, understanding and explanations to generate application implications. Ethics approval was received from the Conjoint Research Ethics Board at the University of Calgary (Ethics ID: REB15-0236). Reporting in this manuscript follows the Consolidated Criteria for Reporting Qualitative Research (COREQ) guideline (Tong et al. 2007).

Context

The study was conducted at an urban community health care center (the Center) in Calgary Alberta Canada. The Center targets low income and vulnerable populations, providing a range of health care services on and off site,

structured as discrete programs or clinics, which include primary care, mental health, social work and breastfeeding support.

The CP program was initiated in September 2014, targeting women who were clinically identified as medically low risk (healthy and without medical complications) and socially high risk (lower income, lower education, or recent immigrants). It was positioned as a standalone program offered within the physical space of the Center. The program and groups were organized by a dedicated coordinator. Groups took place within an allocated space in the Center. Each group consisted of 8–12 women of a similar gestational age and met for 10 sessions beginning at approximately 20 weeks of gestation. On average, eight sessions occurred during the prenatal period and two during the post-partum period. Groups were co-led by a family physician and perinatal educator, and supported by the program coordinator. During the course of the program, women received individual health assessments, health education, resources and support, and an opportunity to interact with the other participants. Site approval was obtained from the Centering Healthcare Institute and followed standard protocols for Centering Pregnancy implementation in Canadian settings. To date, nine groups have been completed, five were underway during the writing of this report and two were set to start in early 2016.

Participants and Recruitment

To address our research question, we aimed to generate a purposive sample that reflected the range of services provided at the Center. Eligible staff included medical doctors (n = 7), clinical staff (registered nurses, licensed practical nurses, nurse practitioners, social workers; n = 8), clinical support staff (medical office assistants, medical receptionists; n = 5), and administrative staff (coordinator, manager, medical receptionists: n = 4). Eligibility was not dependent on knowledge of or involvement in the CP program. Potential participants were invited to voluntarily participate through a lunch and learn session and via internal email.

Data Collection

All participants completed one semi-structured in-person interview. Interviews were conducted in a private office at the Center by an experienced qualitative researcher (AKR). Interviews were completed between June 2015 and September 2015. A $10 gift card to a local coffee shop was provided to all participants who completed the interview. A semi-structured interview guide was used, which covered topics related to knowledge and perceptions of CP and how the program impacted staff, Center patients and the Center overall. During the interviews, specific wording of questions and the order of these questions was determined in response to the participant and flow of the interview. Data collection continued until data saturation was reached, which occurred when we did not identify any new themes or categories in subsequent interviews, and the research team determined that a diverse sample had been generated. All interviews were audio recorded and transcribed verbatim for analysis.

Data Analysis

The analysis was conducted iteratively, initiated upon completion of the first four interviews. Drawing on the constant comparison approach, textual data were systematically analyzed (Leech and Onwuegbuzie 2007). During the first analytical round, each team member read and coded the same three interview transcripts, making notes and broadly coding content in response to the study objectives. Through this process, an initial coding framework was developed, which was refined throughout the analytic process. Subsequent interviews were analyzed and coded independently by two researchers (EH and AKR). Findings of the independent analyses were compared and final thematic coding was derived by consensus. Initial and final codes emerged from reviewing the transcripts; a priori codes were not applied. Once all interviews were analyzed, the coding framework and themes were finalized with input from the research team. All interview transcripts were then re-analyzed applying the codes, and categories of the final framework. NVivo 9.0 was used to manage the qualitative data and facilitate the analysis.

To ensure rigour of the analytic process, time was spent throughout the process identifying and clarifying perceptions and previous learnings of the researchers as it may apply to the interpretation of transcripts and perceptions of staff experiences. During the coding process, attention was paid to filtering out personal opinions and perspectives. Lastly, we engaged in a member review process, where final findings were presented to the participants, and an opportunity for feedback was provided.

Reflexivity Statement

Most members of the research team (AM, EH, HB, ST and DM) had prior knowledge of, or exposure to, the CP model and are currently involved in an evaluation of outcomes of the CP program at this Center. DM and ST have also been involved in previous research focused evaluation of perceptions of health professionals of the CP model. AKR did not have prior knowledge of or experience of CP, and was brought on board specifically for methodological expertise.

Results

Participants

Of the 23 individuals at the Center eligible for participation, 12 consented to participate and completed one in-person interview. The sample of 12 participants consisted of medical doctors (n = 3), clinical staff (n = 4), clinical support staff (n = 2) and administrative staff (n = 3). As several positions are held by one individual, to ensure confidentiality and protect participants' anonymity, we have not included information specific the position or professional designation of participants.

Emergent Themes

Five core themes emerged through the analysis process related to the topics of knowledge, perceptions and impact addressed in the interviews: (1) variable knowledge about CP, (2) positive perceptions of CP, (3) perceived separateness of CP from other programs and services, (4), communication as a core enabler, and (5) patient care processes related to CP developed ad hoc. Quotes supporting the thematic analyses are presented in Table 1. In addition, several recommendations were identified related to continuation of the CP program at the Center and future implementation of new programing at the Center.

Variable Knowledge About CP

Knowledge or level of understanding about the CP program was variable within our sample, ranging from limited to extensive knowledge about the CP model and/or the CP program at the Center. Most participants were aware of the presence of the program within the Center; however, few knew details such as when it had been initiated, days groups were held, or eligibility requirements to inform internal referrals. For those who were knowledgeable, their source of information was external to the Center—they had learned about it at a previous workplace or through a course. The few participants who were aware of the program at the Center had learned about it through informal conversations with the coordinator. Yet regardless of how much or little was known about the program, most participants were aware that it was for pregnant women, that a goal was to create support networks for the women

Table 1 Participant quotes

Theme	Supporting quotes from participants
1) Variable knowledge about CP	"Yeah, so it's a prenatal program for taking care of prenatal women. I'll admit that I didn't know anything about it until you guys did that presentation" (Participant E) "Well I don't know all the details about it here, but I know the model, it's…its groups prenatal care, but it's more um…it's a facilitative model. You're not leading the group, your facilitating the group. Um. And you get all your prenatal care within the group. So ideally you don't need anything outside of the group" (Participant F)
2) Positive perceptions of CP	"I think it's a good program…like from all the patients they seem…like with lots of our patients at the Center, a lot of them no show a lot of their appointments. Even the prenatals…I think it's because we serve like a very marginalized population. But with Centering Pregnancy, they're all here…" (Participant A) "I know it has had some good PR you know, especially to get out into the mainstream community in Calgary. I don't know if that will help raise their profile and maybe eventually translate into more money or more programs". (Participant G)
3) Perceived separateness of CP from other programs and services	"Most of our stuff (services) have a bit of a screening process where people have to meet a certain criteria. And from my understanding, the CP program is more or less open to any patient that wants to participate in it. Um, that is a little bit different. It's usually a bit more episodic around a pregnancy as opposed to long term continuity of care, like most of our programs". (Participant I) "…they kind of come in, mind their own business, they do their program, they all gather in that one room, and then they leave and you don't really see them". (Participant B)
4), Communication as a core enabler	"I wasn't even told that I would be doing blood work for CP. They were just like I have these people and I need blood work. I was like who are these people where do they come from? It all comes down to communication". (Participant B) "…the nurses were a little bit perturbed. So it was like, ok guys, its communication. You just have to talk to each other and figure out how to fix this situation". (Participant K)
5) Patient care processes related to CP developed ad hoc	"…like it's a new program that has come into our clinic, so you know, yes, everything is going to be trial and error until its running perfectly smoothly." (Participant K) "To me it seems that the CP model is to help them (the participants) build the (social) supports. So, after getting a couple of these nebulous referrals (for social work), I realized it would be helpful if there are a couple of questions that they ask so that we can decide what is needed…because I do not want to over intervene…" (Participant L)

involved, and location of the physical space where classes took place. All participants knew who the coordinator was and recognized her as a key resource for the program.

Positive Perceptions of CP

Regardless of their knowledge base about the program, all participants perceived the program at the Center positively. It was considered to be beneficial to the women involved and successful as classes were full and on-going. The program was also seen to be a good fit with the Center—it serves the same population, it expands the services made available through the Center, and it was a complement to existing health care supports. Some participants identified that the presence of the program was beneficial to the Center as it drew attention and provided positive exposure to the Center in terms of their contribution to the health of the community. Another positive impact was that CP was seen as a program that could be showcased to raise additional funds from private donors or foundations for the Center. One participant noted that the presence of pregnant women and babies appeared to have a positive psychological impact on the Center's other patients, many of whom live in social isolation.

Separateness of CP

In light of this, interestingly, most participants viewed the CP program as separate from the Center and its core programming. Several reasons emerged during the interviews which provide insight regarding this perceived "separateness" of the CP program. Women attending the classes are not visible within the Center due to the location of the space and class times. Interaction between CP clients and the general Center patient population was perceived to be limited. Registration processes for CP clients were different from those for Center's patients; specifically, most patients had to meet eligibility criteria to access services at the Center whereas the CP program was open to any women interested in participating and accessible to clients within and outside of the Center. And lastly, the program is relatively self-contained, in that CP clients only accessed services from the Center's other health care providers in a limited way. It is important to note that a couple of participants did perceive the program as integrated into the Center, which resulted from their direct interaction with CP clients and/or their own parallel experience of working in programs that were set up in a similar way.

Communication as Key Enabler

The implementation of CP program at the Center was experienced by participants as having either no impact or some impact, both positive and negative, on their role and/or more broadly the Center. Approximately half of the participants describe experiencing challenges or tensions, which directly related to patient care processes and the participants' roles within the Center (Table 2). One specific example that was commonly discussed was around provision of laboratory services for blood work for CP clients. Initially, the entire group of CP clients would arrive all at once for their blood work. The support staff described these moments as stressful in that not only did it result in an unexpectedly high volume of clients, but it also disrupted service provision to Center clients, overall patient flow and stretched the staffs' ability to effectively provide the needed services in a timely manner. The key theme that emerged in relation to these challenges appeared to revolve around communication. More specifically, a lack of formal communication channels between CP staff and the Center staff to clearly articulate roles and coordination of service provided by the Center to CP clients. Conversely, participants noted that it was informal communication channels facilitated by the CP coordinator that enabled resolution of issues as they arose. With the specific example outlined above, a solution was developed with input from the staff and CP coordinator, whereby CP clients were organized in a staggered manner, leaving the CP group one at a time to receive the needed blood work. This made the process much more manageable for the Center staff and significantly reduced the impact on their overall workload.

Table 2 Examples of challenges experienced by clinical and support staff in relation to the CP program

Increased workload related to providing servicing CP clients in addition to regular Center clients
Use of the Center's equipment and space, which in some cases was already limited, hence placing additional strain on limited resources
Lack of clarity regarding expectations or role(s) of the Centers' health care providers for CP clients;
Inappropriate referrals
Inappropriate resource use
Lack of processes specific to CP client service provision (e.g. registration procedures within the Center's administrative system; internal referrals to the CP program or services available at the Center)

Patient Care Processes Related to CP Developed Ad Hoc

All participants who experienced any CP-related challenges (Table 2) reported that they were non-disruptive and manageable in relation to their role, workload and/or clinical operations. It was also acknowledged by these participants that at the time of the interviews, tensions and/or conflicts that arose in relation to the challenges had been addressed and effectively resolved. These primarily involved ad-hoc processes developed with the input of the staff involved and the CP coordinator. Participants' experiences also point to the coordinator of the CP program as playing an instrumental role in effectively working with staff to troubleshoot and develop processes acceptable to all. One participant suggested that any new program being rolled out at the Center go through a "dry-run" which would help identify potential areas of overlapping roles or challenges that could be worked out ahead of time.

However, some participants had on-going concerns that underlying issues leading to the tensions were not always fully resolved moving forward. This related to situations where referrals of CP clients to other Center services were perceived as unclear or potentially inappropriate. Although not frequent, such referrals required a significant amount of communication to clarify reasons for referrals and determine best use of available resources. More importantly, there was ambiguity related to the role or function of the CP program specifically in relation to social support, and when referral for professional social support services was warranted. One participant identified that referral appropriateness is important as referrals may draw clients into the broader social services system in a more formalized way, which brings with it benefits and potentially consequences related to on-going monitoring. As such, referrals require consideration of broader implications and ensuring that the CP client is made aware of, and consents to, the full spectrum of what a referral may entail.

The relationship between the core themes emerged through the analytic process. Perceptions of the CP program as being separate from other programs and/or services provided at the Center appear to be linked to the limited knowledge most participants had of the CP program; as such, their awareness of the CP program or attending clients was often peripheral to their immediate tasks and/or programs where processes for services and patient care were already well established. The perceived separateness and limited communication had a direct impact on care processes for CP clients that used the Center's resources. However, it is through informal communication mechanisms supported by CP program coordinator with the Center's clinical and support staff that appropriate and acceptable processes did become established and were further refined as needed.

Discussion

The key findings of this research are that integration of a distinct CP program within an existing health care center had negligible or moderate short term impact on clinical and support staff who were not directly involved in the CP programming. A key finding was the critical role of the CP coordinator, who effectively communicated and worked with staff to ensure effective processes were in place to support health care needs of CP clients. These findings make an important contribution to the limited research focused on challenges of implementing group prenatal care within an established setting providing primarily individual (rather than group) patient care.

This study found a great deal of variation and limited understanding about the CP program by Center staff. In general, this lack of understanding did not create many problems, especially among those who did not have contact with CP patients. In busy community health care centers, where staff are already stretched, a full grasp of the CP program may not be necessary. Where it was more problematic was around the area of referrals, with a lack of clarity of appropriate referrals both to the CP program and to additional services at the Center. In general, the program coordinator was able to address any lack of understanding of the CP model, but more streamlined communication at the outset might have avoided some problems.

Previous studies have highlighted significant challenges in implementing the CP model (Klima et al. 2009; Novick et al. 2013). In our study, implementation of the CP program required adjustments, yet it was not fraught with a high degree of challenges as described in the literature. For example, a key challenge in other studies was a lack of buy-in from staff, which contributed to low recruitment into the CP program (Novick et al. 2013). In this Center, CP was viewed as "separate" and recruitment was the responsibility of a dedicated program coordinator, who recruited externally, instead of relying on the Center's administrative staff to refer incoming patients. Lack of a dedicated physical space and competition over scarce resources which have hindered implementation at other sites were not a factor in our study, since a separate room, and external grant funding had been provided to run the program. Interestingly, although the perceived separateness may have limited the degree of integration into the Center, it may have also been a protective element of the CP program, especially in its early stages, because it was not viewed as competing for resources or dependent on patient referrals for success. Where challenges did arise, specifically around

scheduling of lab appointments for CP clients, the presence of a program coordinator and general positive perception of the program may have created enough goodwill to work through the challenges.

In describing barriers and facilitators to implementation of innovative models of group prenatal care in existing health care settings, Novick identified the program coordinator (who is responsible for scheduling and addressing logistical demands) as an implementation facilitator (Novick et al. 2015). Our findings also point to the importance of a CP program coordinator. The CP coordinator was a key point of contact for and source of information about the program, both internally and externally. The CP coordinator was instrumental in effectively managing the communication with clinical and support staff of the Center. The CP coordinator also played a central role in the collaborative development of processes to enable CP clients to access specific health services within the clinic. The previous literature published on this topic has examined the implementation of CP in the United States (Klima et al. 2009; Novick et al. 2013); whereas our study took place in Canada, which has universal health care and operates under a single payer system. The distinction in how healthcare is provided and financed in Canada, and other westernized countries, compared to the United States has implications for the sustainability of this model of care in other settings. As such, the findings from our study may be useful to other international groups as they begin offering group care.

An area of concern which did arise in this setting and raised an interesting point of consideration regarding the "social support" aspect of CP was related referrals from CP to more formal professional support mechanisms offered through the Center. The experiences of some participants in this study suggest a lack of clarity as to when or if such formal professional support interventions, were indicated, and further, that the potential benefits and/or consequences of such referrals where not fully recognized by CP staff. One of the features of the CP model is that it effectively creates a positive social network and provides different forms or elements of social support. Through sharing of personal experiences relating a range of issues, including familial relationships a 'climate of support' is developed, where women are empowered to address their concerns (Rising 1998). However, in this setting, participants suggested the potential need to further explore with the CP facilitators the need to identify when additional professional intervention might be needed given the types of "social support" issues presented by CP clients, which may require supplementary supports. This is particularly relevant in this context as most of the CP clients did not meet the Center's criteria for access to services (which include low household income; homelessness; addiction and mental health) and many did not have the same intensive needs for professional psycho-social support as other Center patients did. Such experiences also suggest that at least some of the participants did not fully understand the CP model, misinterpreting it as an "expert" rather than an "egalitarian" model.

This study followed a rigorous qualitative research methodology to ensure credibility and transferability of the findings. However, several limitations require attention. Our aim was to purposively sample a diverse set of participants to capture the range of types of clinicians and support staff working at the Center. To be responsive and engaging to staff expressing interest in participation, we opted to follow a convenience sampling strategy, whereby we included those who volunteered with consideration of role or function being secondary. Our strategy did result in a diverse sample that captured almost all types of clinical staff and support staff working at the Center. However, there may be some positive bias in our results, as those who did not volunteer to participate may have done so because they did not know about or did not like the Centering Pregnancy program. We anticipate that the contextual description of the health care clinic will provide the required background to make a determination of generalizability to other similar settings. However, this is limited by lack of insight regarding the culture within this clinic, which is expressed through the nature of interactions of the clinicians and staff, overall staff satisfaction with their jobs and workplace, and the nature of their relationship with management, all of which may impact perceptions and experiences.

Conclusions for Practice

Clinical and support staff of a health center in urban Alberta Canada where CP was recently introduced perceived this model of care positively, in terms of impact on the clients served and the clinic environment more broadly. Although adjustments to CP were required of the Center's clinical and support staff, the CP program was implemented with relative success as the tensions or challenges that did arise appeared to be effectively managed, in part because of the personal, administrative and collaborative skills of the CP program coordinator. The role and efforts of the CP program coordinator were recognized as critical to this success. Important learnings emerged from participants' experiences to support further refinement and improvement of how Center resources may be effectively used to support the CP model in providing prenatal care. Clinical settings that are considering implementing the CP model should consider how the program will not only affect the staff involved in direct program delivery, but other staff that may be more peripherally involved. The findings of the study further support the broad applicability of this group based prenatal care model.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

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