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Prenatal Care Choices in Appalachia: A Qualitative, Critical Realist Description & Content Analysis

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To the Graduate Council:

I am submitting herewith a dissertation written by Julia Cain Phillippi entitled "Prenatal Care Choices in Appalachia: A Qualitative, Critical Realist Description & Content Analysis." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Nursing.

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(Original signatures are on file with official student records.)

Prenatal Care Choices in Appalachia: A Qualitative, Critical Realist Description & Content Analysis

A Thesis Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Julia Cain Phillippi
December 2011

Dedication

I dedicate this dissertation to my family, all of you, for your unflagging support. Your faith in me and your help have made this and all of my accomplishments not only possible, but rewarding. Thank you.

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Abstract

Introduction: Appalachian women have high rates of preterm birth and low birth weight infants. A new format of group prenatal care, known as CenteringPregnancy, decreases the rate of preterm birth and low birth weight when compared with individual care. However, clinics in Appalachia often struggle to recruit women into group care. **Theory & Methods:** Using critical realism and the middle-range theory of motivation-ease as frameworks, this qualitative study had two research questions: 'What influences Appalachian women's choice of traditional prenatal care instead of CenteringPregnancy care?' and 'What are Appalachian women's perceptions of prenatal care and their access to prenatal care?'. Twenty-nine Appalachian women, who had declined CenteringPregnancy care, were interviewed about their perceptions of prenatal care, what facilitated care, and their decision to decline CenteringPregnancy. Verbatim transcripts of these semi-structured interviews, in-depth demographic questionnaires, and field notes were coded and analyzed using conventional (inductive) content analysis. **Findings:** Two meaning units were identified, information concerning women's reason(s) for declining CenteringPregnancy and facilitators of prenatal care access. The reasons women provided for declining CenteringPregnancy care fell into three overarching categories, preferred one-to-one care, experienced barriers to Centering, and did not know Centering was an option. The most common reason for declining Centering was a preference for individual care. This category had three subcategories: do not like groups, don't want to put everything out there with other women, and no need for change from existing care. Women predominately named two facilitators of prenatal care access, insurance and compassionate care. **Conclusions:** Clinicians should decrease barriers to CenteringPregnancy utilization and should partner with the local community to better market this new model of care. In addition, small modifications in Centering may make the model more appealing and accessible. However, clinicians should continue to provide individual care for women who cannot access group care. Participants stated state-provided insurance greatly facilitated prenatal care which supports the need for ongoing Medicaid funding. Women also stated compassionate care enhanced their ability and desire to get prenatal care. Healthcare providers should renew efforts to provide personalized and unrushed clinical environments to assist women in obtaining needed prenatal care.

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Chapter 1

Introduction

The United States (US) has the worst perinatal outcomes in the developed world. In 2009, the US had high maternal mortality with 24 out of 10,000 mothers dying as a result of childbirth in 2008, ranking 49th in the world (World Health Organization, 2011). The US, as a whole, had an infant mortality of four per 1,000 live births (World Health Organization, 2011), tying with six others for 35th in the in the world, despite the highest per capita health expenditures (Kaiser Family Foundation, 2011). Women from disadvantaged groups had rates of maternal and infant mortality as high as some developing countries (Centers for Disease Control and Prevention, 2010).

Decreasing these health disparities and improving health equity was listed as a major health priority by the Centers for Disease Control (Centers for Disease Control and Prevention, 2011), and is included in the Healthy People 2020 goals (United States Department of Health and Human Services, 2010). Health disparities at birth can persist throughout the lifespan (Kotelchuck, 2003; M. C. Lu & Halfon, 2003; Misra & Grason, 2006), the field of epigenetics is exploring this relationship closely, and many national organizations have called for a greater focus on prevention at the beginning of the lifespan (Institute of Medicine, 2011; United States Department of Health and Human Services, 2010). However, since health disparities are caused by complex phenomenon, it has been difficult to evaluate programs designed to improve outcomes for disadvantaged groups.

Appalachia is defined as the geographic area adjacent to the Appalachian mountain chain in the US (Appalachian Regional Commission, 2011). The people of Appalachia have poor health outcomes due to a multitude of factors including lack of access to medical care, poor utilization of existing services, and higher rates of poverty, smoking, sexual abuse, and depression when compared with national norms (Barker et al., 2010; Huttlinger, Schaller-Ayers, & Lawson, 2004; Pearson, 2010). Perinatal outcomes in the region are also poor with higher rates of preterm birth and low birth weight when compared with national averages or close urban counterparts (Bailey & Byrom, 2007; Bailey & Cole, 2009; Jesse, Seaver, & Wallace, 2003). Many Appalachian counties have poor perinatal outcomes when compared to their state averages and are located in states that rank poorly compared with national averages (Centers for Disease Control and Prevention, 2010). However, there is little research on how women living in Appalachia perceive prenatal care or access to prenatal care, making it difficult for policy makers and clinicians to develop effective interventions for this placed-based population.

Prenatal care has been promoted as a means of improving maternal and perinatal outcomes since the 1940s and while there have been improvements, the rate of preterm birth has remained fixed, and has even risen slightly, in the past 20 years (Alexander & Kotelchuck, 2001; Centers for Disease Control and Prevention, 2010). Traditional prenatal care has been criticized within the literature as not being evidence-based, with a heavy focus on detection rather than health teaching and prevention (Alexander & Kotelchuck, 2001). In addition, the content of prenatal care has not been standardized, resulting in wide variations in visit content (Kogan, Alexander, Kotelchuck, Nagey, & Jack, 1994).

A new format of prenatal care, known as CenteringPregnancy, has superior outcomes, including significantly lower rates of preterm birth, when compared to traditional prenatal care in multiple trials (Baldwin, 2006; Grady & Bloom, 2004; Ickovics et al., 2007; Ickovics et al., 2003). Developed by a Certified Nurse Midwife in the 1970s, CenteringPregnancy, a proprietary form of prenatal care, involves two-hour group visits focusing on facilitated discussion of health topics. Centering care is started at approximately 15 weeks, after women have had an initial individual visit with a provider. Ideally, eight to twelve women with similar due dates have all their prenatal care performed within the group setting until 36 weeks (Centering Pregnancy and Parenting Association, 2007).

CenteringPregnancy has a strong focus on empowering women (S. S. Rising, 1998). Women take their own weight and blood pressure and fill out detailed self-assessment questionnaires before each visit. The provider performs some individualized health measurement with the woman on a low mat within the group space. Following measurement, the rest of the two-hour visit is spent in facilitated discussion about key health topics (Centering Pregnancy and Parenting Association, 2007). The use of facilitated discussion rather than didactic teaching may better resonate with adult learners, increasing their retention and application of health-related information (Phillippi, 2010). Since CenteringPregnancy is more effective in reducing preterm birth and low birth weight, the March of Dimes began providing grants to assist clinics in beginning CenteringPregnancy programs as part of their campaign against prematurity.

Two such grants were given to free-standing birth centers in the Southeast, one urban birth center and one rural birth center located near the Appalachian mountain chain. The women of Appalachia might benefit from CenteringPregnancy care due to high rates of preterm birth and low birth weight which has been attributed to modifiable health behaviors such as smoking (Bailey & Byrom, 2007). However, in communications with Directors of Midwifery of midwifery clinics, women have been reluctant to enroll in CenteringPregnancy, instead preferring traditional prenatal care (J. Alliman and L. Cole, personal communication, Spring 2009).

To be cost effective, practices using Certified Nurse-Midwives to provide CenteringPregnancy care need to be billing at least 100 deliveries a year and have 60% of patients use CenteringPregnancy instead of individual care (Mooney, Russell, Prairie, Savage, & Weeks, 2008). Lower rates of utilization result in losing money on providing CenteringPregnancy groups, as the same provider time is required for a small group as a large one. The sample clinic, located in rural Appalachia, struggled to even get three women per group to complete CenteringPregnancy despite assigning all pregnant women to a group and requiring them to opt-out of CenteringPregnancy care. With low numbers of women participating in CenteringPregnancy care, it is not a cost effective model. In addition, low utilization of this care means that fewer women are receiving evidence-based prenatal care.

This lack of enthusiasm for CenteringPregnancy care is reported, but not explained, within the current literature. In trials where women were given incentives, such as gift cards, for participation in CenteringPregnancy, only 30% of eligible women chose to participate in the new form of care. The format of CenteringPregnancy may represent a barrier to access for many women but this needs further study.

A 2010 literature search of the PubMed and CINAHL databases did not reveal publications describing the reasons women decline CenteringPregnancy or group care. Without knowledge of women's perceptions of access to this format of care, there is little practitioners can do to make CenteringPregnancy more attractive to women at risk for preterm birth. While providing evidence-based care is a goal of healthcare as described by the Institute of Medicine (Institute of Medicine, 2001, 2011), it is important to realize that care supported by randomized, controlled trials needs to be acceptable to the target population or the individual patient in order to be effective.

Problem

While CenteringPregnancy was shown to be effective prenatal care for women who accept group prenatal care (Baldwin, 2006; Ickovics, et al., 2007; C. Klima, Vonderheid, & Norr, 2007), there was no literature detailing why women chose not to utilize this model. Following the publication of the multi-site randomized trial of CenteringPregnancy, there was a steep increase in the number of clinics providing CenteringPregnancy care. However, the literature on CenteringPregnancy and anecdotal reports from midwives reported a large percentage of women did not enter CenteringPregnancy care when traditional care was available. Research was needed to explore the reasons women did not use this more effective model of care. There was also minimal literature exploring Appalachian women's perceptions of prenatal care or their ability and desire to access prenatal care. Since, Appalachian women have higher rates of perinatal complications and low utilization of prenatal care (Bailey & Cole, 2009; Jesse, Swanson, Newton, & Morrow, 2009), more information on their perceptions of care would be useful to clinicians. While it would be interesting to compare the perceptions of prenatal care between women who utilize Centering care and those who chose individual care, this is not possible within this study as so few women in this area chose to utilize Centering care. In addition, the literature does have an adequate representation of the comments of women who participate in CenteringPregnancy care.

Purpose

The purpose of the study was to explore Appalachian women's choice of traditional prenatal care instead of CenteringPregnancy care. In addition, the study explored Appalachian women's perceptions of prenatal care and access to prenatal care.

Research Questions

This study had two research questions. The first question, "What influences Appalachian women's choice of traditional prenatal care instead of CenteringPregnancy care?" addressed the main goal of the study, to investigate the reasons women decline CenteringPregnancy prenatal care. The second research question, "What are Appalachian women's perceptions of prenatal care and their access to prenatal care?" addressed a gap within the current literature. In addition, the questions about perceptions of prenatal care and access were used as warm-up questions to build rapport with participants prior to exploring their reasons for declining CenteringPregnancy care.

Conceptual Framework

Critical realism was used as the underlying framework for this study, guiding the approach to answering the research question and interpreting the results. Since the conceptual framework of the study influences all aspects of the study including the goals of inquiry, method, and interpretation of findings, it is important to understand the foundations of the conceptual framework before moving forward. Critical realism is not a new philosophical framework, but it has only recently been promoted as an ideal framework for studies of complex health systems (J. B. Connelly, 2007; Wilson & McCormack, 2006).

Critical realism outlines the dynamic interplay between a person or people, termed agency, and their structures (Cruickshank, 2003) and allows the researcher to acknowledge the dualism of individual independence and deep-rooted societal constraints (Clark, Lissel, & Davis, 2008). Beliefs about power, gender, sexuality, knowledge, and the body stem from societal constructs (Foucault, 1980, p. 122) and can have short-term and long-term implications for health (J. Connelly, 2001). Societal beliefs are internalized and simultaneously enacted through people and their actions (Cruickshank, 2003). Structures are established by individuals who are turn influenced by those structures as they interact and create more structures and beliefs (Collier, 1994).

Many post-modern approaches value interactions of institutions and individuals, also known as structure-agency interactions and believe that all reality is socially constructed (Groff, 2004). This relativism is, in part, a reaction to previous thought about the nature of reality, known as positivism (Groff, 2004). Positivists believe in an objective reality that can be discovered through careful experimentation in labs or closed systems. Positivists believe that reality that follows ordered and unyielding rules that can be discovered through careful experimentation and science (Groff, 2004). Post-modern schools of thought present a near anti-thesis of this idea. Critical realism acknowledges the importance of social interactions and societal pressures yet believes that there is a reality beyond social construction that, even though it is hard to perceive, is important in influencing social interactions (S. J. Williams, 2003). Thus, critical realism can be seen as acknowledging both positivist and post-modern or relativist viewpoints in its statements of reality.

Critical realism, as originally developed by Bhaskar, states that there are three layers to reality, some of which can be perceived and others which are difficult to observe (Groff, 2004). While the deeper layers of reality are difficult to see and even harder to test, Bhaskar, and other critical realists, want researchers to strive for understanding of this deeper layer of causation as it is often where inequalities and injustices are embedded (Groff, 2004). Bhaskar originally developed critical realism, but his primary sources are cumbersome to read and are not usually directly cited by those using it as a framework for research. While not ideal, secondary sources clearly outlining Bhaskar’s work are used here solely for clarity as the secondary sources were used to understand and translate his work.

The three levels of this stratified reality, as initially outlined by Bhaskar, are the empirical, the actual, and the real (Collier, 1994). They become progressively more encompassing with the final layer, the real, subsuming the previous two strata. See Figure 1. While the figure depicts these layers are independent, the layers are dynamic with all layers influencing the other.

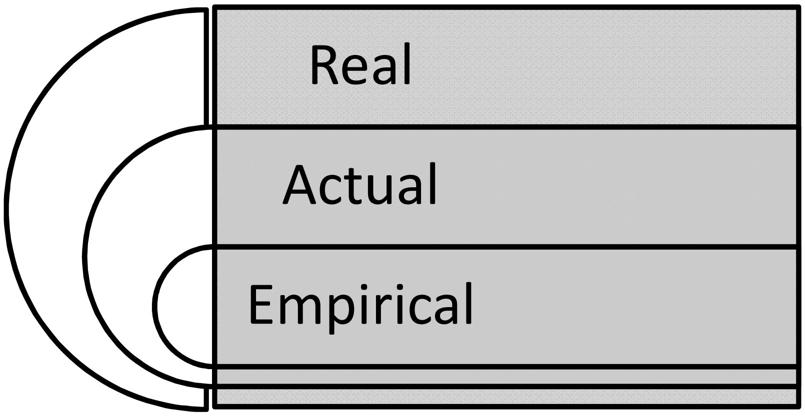

Figure 1: Critical Realism

The empirical level of reality, also known as the empirical domain, is all events that are experienced with the senses and can be measured (J. B. Connelly, 2007). An example of an event in the empirical domain would be the experiences of people who feel an earthquake. This layer of reality is the most frequently encountered in daily life and research.

The actual layer, or domain, of reality encompasses all events and actions that happen, regardless of whether they were perceived or not (Collier, 1994). For instance, an earthquake could take place in a barren and remote location and not be perceived by sentient beings or recorded by seismographs for later reading, despite that fact that no one perceived the earthquake, it actually occurred. Events in the actual domain go beyond simple experiences to include all of the series of events that led to experiences (Collier, 1994). Using the example of the people who experienced an earthquake this would include how they came to be at that geographic location at that time and the larger series of events that shaped their experience such as the stability of their building and the infrastructure that prevented a greater disaster. All events and experiences in the actual domain stem from causal mechanism in the real domain of reality.

The real domain of reality includes the aspects of reality from the previous domains and also the deeper mechanisms which began or caused the events and experiences. Using the earthquake example, we can think of the real domain as encompassing the experiences of the earthquake, all the events leading up to the person being in that moment to experience the earthquake as well the larger societal framework that required building codes to produce stable buildings and viable infrastructure. It would include the larger societal values that lead to the passage of the laws that put in place the building codes and protective measures to prevent loss of life. In addition, the real layer includes the natural causes of earthquake such as the shifting of the tectonic plates on the earth in response to changing pressures below the earth's surface.

As is evidenced in our example, Bhaskar and other prominent critical realists include many potential causal mechanisms in the real layer of reality. The real domain can further divided into strata for clarity (Collier, 1994). The strata exist to acknowledge there are varying levels of causal mechanisms, some of which are socially constructed, such as gender roles and economics, while others are laws of physics and nature (Collier, 1994). Bhaskar groups causal mechanisms in several ways, one such grouping is to divide causal mechanisms into the categories such as "natural, social, human, physical, chemical, aerodyanamical. . ." (Collier, 1994, p. 47). All of these causal mechanisms can be influencing superficial layers of reality simultaneously. The causal mechanisms can influence events and experiences, but not in a linear and predictable fashion, in part because the causal mechanisms are acting concurrently in the open system of our world (Clark, et al., 2008).

Critical realism can be used to understand causal mechanisms but since it acknowledges that all natural systems are open, it not useful in reliable prediction of outcomes (Collier, 1994). Instead, critical realists propose that researchers work to undercover and understand the deep causal mechanisms that affect events and experiences and then work to correct those inequalities and injustices (Cruickshank, 2003).

Critical realism has recently been used to investigate health and health interventions in nursing and public health research (Angus, Miller, Pulfer, & McKeever, 2006; Clark, et al., 2008; J. Connelly, 2001; J. B. Connelly, 2007; Wainwright, 1997; Wilson & McCormack, 2006). This framework has been praised as it is inclusive of individual decisions, structural components of the healthcare system, and societal pressures on health (J. B. Connelly, 2007). Critical realism makes an ideal framework for the study of the reasons women decline Centering care as there are maternal, structural, and cultural/societal components to access to prenatal care (Phillippi, 2009). Aspects of the woman and clinic interact to affect a woman's decision. The larger society can also impact decisions as the community and society establish the availability of public transportation, funding for prenatal care, and flexibility of work schedules. Societal beliefs about privacy, health, motherhood, and sexuality also affected the macro-level health system, the micro-level health clinic, and the woman herself.

Critical realism was used to establish the format of the study and as a guide for the selection of a method of analysis. Critical realists acknowledge that quantitative methods and qualitative methods are equally valid methods of exploring and understanding events as reality is both socially constructed and value laden (intransitive) and fixed (intransitive) (McEvoy & Richards, 2006). However, while quantitative methods have value in demonstrating correlation, they cannot show causation as they have artificially flattened reality and eliminated the complex of the myriad interactions that sum to create events (Collier, 1994; Groff, 2004).

There are many well done studies of prenatal care access that correlate utilization of care with a variety of factors including maternal race and ethnicity and Medicaid status (Adams, Gavin, & Benedict, 2005; Frisbie, Echevarria, & Hummer, 2001; Laditka, Laditka, Bennett, & Probst, 2005). However, using critical realism as a framework for understanding, it is clear that these studies are flat. While they show associations of poverty and marginalization with poor prenatal care use, they cannot explicate the series of events that led to poor care utilization nor do they explore the underlying social factors that set those events in motion. Without the information of how the deep social factors affect the lives of women, clinicians have little guidance as to how to lessen the effects of these forces. With this in mind, this study was approached to include qualitative data as the primary data source to enhance the understanding of the events and thoughts preceding the women declining Centering care.

Critical realists emphasize the value of context in understanding the unfolding of events. The tenets of critical realism state that experiences and events are not isolated and random but, instead, inextricably affected by context. Since all events and experiences beyond a highly controlled lab setting take place within an open system, it is important to include as much contextual information as possible in research. To allow for a broad inclusion of context, I selected a known clinic where I had extensive previous experience. This allowed me to have a greater depth of knowledge of the community, population, practitioners, state political situation, and reimbursement patterns. I studied Appalachian geography and culture using documentaries and books, and at Gobble's suggestion, I read fiction written by local female authors looking for cultural archetypes in local narratives. In addition, during data collection I spent a large amount of time within the community, talking with the clinic staff and driving around the area to get a sense of the geography and the availability of resources.

The study was set up to include as much context of the individual women's lives as possible while protecting their identity. A demographic questionnaire was used to contextualize the information provided by the women in the interviews. This allowed the women's comments to be linked with her family size, transportation, and availability of social support to create greater depth to the data and to assist the researcher in understanding how larger pressures affected the woman’s decision to decline Centering and her statements about access to prenatal care.

Qualitative content analysis was chosen as its goal, “making replicable and valid inferences from data to their context with the purpose of providing knowledge, new insights, a representation of facts and a practical guide for action,” (Elo & Kyngas, 2008, p. 108) matched well with the framework of critical realism. The focus of qualitative content analysis is to uncover and understand the “meanings, intentions, consequences, and context,” of the research topic (Elo & Kyngas, 2008, p. 108) which aligns with the previously describe goals of critical realist research to perceive and understand experiences, events, and mechanisms in order to correct inequalities. In addition, content analysis does not mandate that all data be qualitative or quantitative and permits the use of a variety of data sources for analysis within the same study (Bureau., 2010; Elo & Kyngas, 2008; Krippendorff, 1980) which is consistent the critical realist approach.

Assumptions

It was assumed that the woman was the best source of information to describe her choice of traditional care instead of CenteringPregnancy care. Consistent with critical realism, information obtained from the woman was seen as the best possible evidence to describe the reality of her choice. It was assumed that the woman provided accurate information. It is possible that women were not being honest or were concealing information concerning their choice, but since this study was voluntary, it was assumed the women were honest in their statements.

Definitions

There are many types and formats of prenatal care (Alexander & Kotelchuck, 2001; Carroli et al., 2001; Walker, McCully, & Vest, 2001). In addition, a wide variety of clinicians perform prenatal care (Carroli, et al., 2001) and there is little standardization in the content of care (Kogan, et al., 1994; Villar, Carroli, Khan-Neelofur, Piaggio, & Gulmezoglu, 2001). In order to avoid confusion, a list of pertinent definitions is presented below.

Prenatal care, according to the World Health Organization, is care during pregnancy that "assists women to remain healthy, to find and correct adverse conditions when present and thus to aid the health of the unborn."(Di Mario, Gori, & Spettoli, 2005, p. 7). This definition is chosen to be inclusive of all providers and formats of prenatal care.

Traditional prenatal care, as used within this paper, denotes care consistent with the Guidelines for Perinatal Care, developed by the American College of Obstetricians and Gynecologists and the American Academy of Pediatrics (2002). This format of care has one provider caring for one woman at a time and follows the visit schedule prescribed within the Guidelines for Perinatal Care with one visit as soon as possible in pregnancy and then one visit every four weeks until 28 weeks, visits every two weeks from 28 to 36 weeks, visits every week from 36-40 weeks and then close surveillance of pregnancy after 40-41 weeks (American Academy of Pediatrics & American College of Obstetricians and Gynecologists, 2002). Traditional prenatal care includes testing and procedures as outlined within the Guidelines for Perinatal Care (American Academy of

Pediatrics & American College of Obstetricians and Gynecologists, 2002). No attempt is made to describe the teaching and preventative health content of care, as this is not consistently recorded in patient charts and information within the chart may not accurately reflect visit content (Freda, Andersen, Damus, & Merkatz, 1993; Kogan, et al., 1994; Peoples-Sheps et al., 1991).

CenteringPregnancy is a registered, trademarked version of prenatal care. The visit frequency, format, and content are described within the CenteringPregnancy handbook. (Centering Pregnancy and Parenting Association, 2007). The role of the provider, the format of care, and the topics of each visit are specified within the CenteringPregnancy handbook. In this version of prenatal care, all prenatal care for well visits from 15 weeks of pregnancy through approximately 36 weeks of pregnancy is provided within a group setting consisting of 8-12 women with similar expected dates of birth. The frequency of visits is similar to traditional prenatal care with group meetings/visits occurring every month until 28 weeks then every two weeks until 36 weeks. Before 15 weeks and after 36 weeks, women receive traditional one provider to one woman prenatal care. The content of group visits is specified within the CenteringPregnancy handbooks, but deviations from the topical outline do occur in response to maternal questions and needs (S.S. Rising, Kennedy, & Klima, 2004).

Delimitations

Only women from the sample clinic in the Southeast, who declined CenteringPregnancy care, were offered enrollment in the study. Recruitment and interviews took place between February and June 2011. All adult women at the sample clinic who declined to enter CenteringPregnancy were offered participation, regardless of their socio-economic level, previous birth experiences, or planned delivery site. Participants were recruited using paper flyers and in person. Interviews were scheduled in advance, or women were interviewed after their regular prenatal appointment if the researcher was available. Women were interviewed once at any point in their pregnancy from the time they declined CenteringPregnancy care until the birth of their baby.

Limitations

A major limitation of the study was the use of only one site for data collection. The unique cultural and regional characteristics of the area may mean that the study findings have limited generalizability in other areas. However, the literature of women's perceptions of access to prenatal care demonstrates that diverse populations of women identify very similar barriers across the United States when compared in terms of age, race, socio-economic status and parity (Phillippi, 2009). This suggests that while the study findings are unique to this population, the results will have value for clinicians as they understand how women perceive access to CenteringPregnancy care. While the use of one site was not ideal, since there was no literature on women's decision to decline CenteringPregnancy, this study will hopefully begin a larger dialogue on this issue.

It was also a limitation that only women who declined CenteringPregnancy were included in the study. However, while there was extant research available on what women like about CenteringPregnancy care (C. S. Klima, 2003; Massey, Rising, & Ickovics, 2006), there was not information concerning why women decline the more effective model. Ideally, future studies can investigate the demographic differences between women who utilize Centering care and those who decline.

Significance of the Study to Health Sciences and Nursing

The interaction of a person, the environment, and health are key components of the nursing profession (B. L. Rodgers, 2005). Advanced Practice Nurses shape the climate, structure, and function of their workplaces (Slager, 2004). Consistent with statements from the American Academy of Nurse-Practitioners and the American College of Nurse-Midwives, APRNs strive to create models of care that meet the needs of the whole individual and to affect a change in health outcomes on individual and community levels (American Academy of Nurse Practitioners, 2007; American College of Nurse-Midwives, 2007). Providing open access to beneficial care is an extension of this role.

CenteringPregnancy, which was developed by a nurse-midwife, has been shown to be a more effective model of prenatal care when compared with traditional prenatal care (Ickovics, et al., 2007; S. S. Rising, 1998). However, it is only beneficial if the model is acceptable and accessible to women. Evidence-based care, while ideal, cannot be applied unilaterally without consideration of the preferences and culture of the individual patient (Houston, 2005). If this beneficial model of care is only accessible to affluent or organized women, it may serve to exacerbate existing health disparities (Fuchs & Peipert, 2005). Research is needed to study women's choices concerning this new model of care in order to open pathways to effective care for vulnerable women.

Appalachian women have high rates of preterm birth, low birth weight babies and other poor prenatal outcomes (Bailey & Cole, 2009). This rural region has many challenges to improving the health of mothers and babies including poverty, low rates of literacy (Denham, Meyer, Toborg, & Mande, 2004) low preventative health care utilization (Denham, et al., 2004; Huttlinger, et al., 2004), and high rates of smoking (Bailey, 2006). There is little literature describing how Appalachian women perceive prenatal care and their ability to access prenatal care. Information on how women perceive prenatal care will be useful in adjusting prenatal care programs to be more acceptable and feasible for Appalachian women.

Chapter 2

Literature Review

In framing a research study a contextual background from the literature is important. With this in mind, each of the topics, access to prenatal care, CenteringPregnancy, and Appalachian women's access to prenatal care will be explored separately. My publications on these topics are referenced within the document and unpublished manuscripts are included in Appendix A.

Access to Prenatal Care

There is a great deal of literature concerning women's access to and utilization of traditional prenatal care which provides foundational knowledge. However, knowledge of access to prenatal care is not rapidly evolving, with few recent publications in this area. My initial literature review on women's perceptions of prenatal care access, was performed in 2007 and published in 2009 (Phillippi). Few publications have focused on this topic since that initial review. Two publications have reported on access directly (Epstein, Grant, Schiff, & Kasehagen, 2009; Sunil, Spears, Hook, Castillo, & Torres, 2010), and two other articles contained information relevant to access but from studies on other topics (Ayoola, Nettleman, Stommel, & Canady, 2010; Hohmann-Marriott, 2009). In addition, there were four studies unintentionally excluded from my 2007 review.

The inclusion of studies based on Pregnancy Risk Assessment and Monitoring System (PRAMS) data allowed for the review of one additional article published prior to the last review (Rosenberg, Handler, Rankin, Zimbeck, & Adams, 2007). In my previous review, two articles based on one dataset were omitted due to a problem with keyword terminology. These articles (Fullerton, Bader, Nelson, & Shannon, 2006; Fullerton, Nelson, Shannon, & Bader, 2004), based on one set of data, were called to my attention by a letter to the editor of the *Journal of Midwifery & Women's Health* written by Dr. Fullerton in response to my article. However, inclusion of these three new articles does not change the overall review of the literature.

The summary and conclusion stated within my 2009 article are still applicable to the extant literature on prenatal care access. There are several key areas of weakness in the literature on women's perceptions of prenatal care access including: few studies on how perceptions of access to care change over the course of gestation, no studies investigating how the type of prenatal care provider affects access, and no studies examining how the new format of prenatal care, CenteringPregnancy, affects women's perceptions about access to prenatal care.

In addition, the literature on access to prenatal care has a strong focus on barriers to care with little to no attention paid to the facilitators of care. The focus on barriers may signal that barriers are more prominent in women's perceptions, but it may also be a reflection of the theoretical frameworks used to guide studies.

Theoretical frameworks in studies of access to prenatal care.

A discussion of the theoretical basis for the study of access can be found in the attached manuscript (Phillippi & Roman, unpublished manuscript). Of all the reviewed articles included in my review of the literature, only six mentioned an overarching theoretical framework that guided the study. Four stated the Health Belief Model as a framework (Beckmann, Buford, & Witt, 2000; Fuller & Gallagher, 1999; Leatherman, Blackburn, & Davidhizar, 1990; Mikhail, 1999), one cited the Health Promotion Model (Ayoola, et al., 2010), and one study used a framework developed by Khan and Bwardwaj (1994) for non-specific health care access (Fullerton, et al., 2004). Authors of one study stated they used a grounded theory methodology but did not comment on their theoretical basis for this method (Patterson, Freese, & Goldenberg, 1990).

The Health Belief Model was the prominent theoretical framework. In addition, researchers who did not specifically cite the model often used Health Belief Model terminology within their studies. Even though many studies were based on the Health Belief Model, the theory was predominantly used to categorize the study results. Little discussion was paid to testing the framework. Two articles affirmed that the Health Belief Model was useful, but did not link that statement to their findings (Beckmann, et al., 2000; Fuller & Gallagher, 1999). Mikhail (1999) and Leatherman et al. (1990) did not critique their theoretical framework in the discussion or conclusion sections. Ayoola et al. (2010) also did not include a critique of their theoretical framework, the Health Promotion Model, in their discussion or conclusion. Fullerton et al. (2004) were the lone authors to include a discussion of their theoretical model, both in study development and planning and within their conclusions and discussion.

The lack of inclusion of theoretical frameworks in fifteen studies, and the lack of true critique of the theoretical frameworks in all but one study demonstrates a lack of theoretical grounding. This may signal that there are not accurate or accessible theories to describe access to prenatal care (Phillippi & Roman, unpublished manuscript).

Many theoretical models of access to generic healthcare within the literature have been used to frame research in generalized access to healthcare (Ricketts & Goldsmith, 2005). The work of Donabedian (1972), Andersen and Aday (1974; 1981; 1978; R. M. Andersen, 1995), and Khan and Bwardwaj (1994) are all concrete models which have been widely employed to study access to non-specific health care. Only Khan and Bwardwaj's theory has been used in a study of prenatal care access. The lack of use of these common health-related theories in prenatal care research may be due to a poor fit of these models in studying prenatal care access. Pregnancy is a unique state in comparison with many other types of healthcare since pregnancy is, on the whole, a well state and categories such as 'perceived susceptibility' and 'perceived severity of the disease' (Stretcher, Champion, & Rosenstock, 1997) may not be applicable to the study of prenatal care.

More abstract theories have been used to conceptualize health disparities and include a large societal component within the framework. This includes the theories of Transformation for Health (M. C. Esperat et al., 2008; M. C. R. Esperat, Feng, Owen, & Green, 2005), allostasis (Latendresse, 2009; McEwen & Gianaros, 2010), life-course perspective (Kotelchuck, 2003; M. C. Lu & Halfon, 2003; Misra & Grason, 2006), and the eco-social model (Jesse, et al., 2009; Krieger, 2001a, 2001b). While these theories are more prevalent in research studies focused on health disparities, they do not provide a strong framework for the study of access to care. These models tend to view health disparities as a result of societal pressures and inequalities and leave little conceptual room for the clinic or healthcare within their models. However, the clinic plays a large role in the woman's ability to access care (Phillippi & Roman, unpublished manuscript).

As outlined in Chapter 1, critical realism holds promise as a minimally reductionist framework for the study of prenatal care access. Its acknowledgment of multiple different, simultaneous, and equally valid realities and deeper societal components is an excellent fit for prenatal care access research as access involves societal, maternal and structural dimensions that impact a woman's access to care (J. Connelly, 2001; Phillippi, 2009). However, while critical realism has been shown to be a useful theoretical framework for health-related research (Angus, et al., 2006; Clark, et al., 2008; J. B. Connelly, 2007), it has not been specifically used in the study of prenatal care access.

CenteringPregnancy

CenteringPregnancy is a proprietary version of group prenatal care which was developed by Sharon Schindler Rising, a certified nurse-midwife (S. S. Rising, 1998; S.S. Rising, et al., 2004). After small-scale pilot studies were successful in improving perinatal outcomes with high levels of maternal satisfaction (S. S. Rising, 1998), larger studies were conducted and had similarly positive results (Ickovics, et al., 2003). These results were used to obtain R01 funding from the National Institutes of Mental Health for a large, multi-site randomized controlled trial.

The results of the randomized controlled trial of over 1,000 women demonstrated that CenteringPregnancy care had superior outcomes to traditional one-to-one care in several categories including the rate of preterm birth, maternal knowledge, breast-feeding initiation, and maternal satisfaction (Ickovics, et al., 2007), prompting a profusion of studies on CenteringPregnancy in a variety of urban settings (Bloom, 2005; C. Klima, Norr, Vonderheid, & Handler, 2009; C. Klima, et al., 2007; Novick et al., 2011) and patient populations (Grady & Bloom, 2004; Kennedy et al., 2009; Kershaw, Magriples, Westdahl, Rising, & Ickovics, 2009; C. S. Klima, 2003; Moeller, Vezeau, & Carr, 2007; Robertson, Aycock, & Darnell, 2008). These smaller-scale niche studies have also shown favorable results with high levels of maternal satisfaction and comparable or superior outcomes when compared to traditional prenatal care. The location of data collection for published studies can be found in Table 3 in Appendix C. These favorable studies were all based in urban areas and only studied the women who opted-into Centering care.

Since traditional prenatal care has shown little improvement in outcomes in over a decade (Alexander & Kotelchuck, 2001; Moos, 2006), the results of the studies of CenteringPregnancy have been well received by scholars, policy makers, and funding organizations. The March of Dimes has been especially supportive of CenteringPregnancy as part of its campaign to decrease prematurity. March of Dimes has provided funding to many clinics to obtain the training and resources needed to provide CenteringPregnancy care, including two East Tennessee clinics.

The format of CenteringPregnancy, with its focus on self-assessment and facilitated discussion, is consistent with adult learning principles (Knowles, 1980; Merriam, Cafferella, & Baumgartner, 2007) and more specifically transformative learning as outlined by Mezirow (1997). Further information on how CenteringPregnancy may act as an impetus for transformative learning can be found in my 2010 publication in the *Journal of Lifelong Learning* (Phillippi, 2010). Other authors have postulated that the positive outcomes of CenteringPregnancy are the result of the promotion of relationships (Massey, et al., 2006), and this would be supported by research on the value of social networks in health (Bogossian, 2007; Fullerton, et al., 2006).

However, the studies of CenteringPregnancy show that only one in three women will opt for CenteringPregnancy over traditional care, even when provided incentives for attendance (Ickovics, et al., 2007; C. Klima, et al., 2009). The positive outcomes shown in many studies may reflect group care is beneficial for women who enjoy social settings and open discussion. CenteringPregnancy may resonant with the learning style of some women but not others.

The two East Tennessee birth centers funded by the March of Dimes have had difficulty getting women to start and continue group care. The nurse-midwives report poor enrollment in groups and high rates of attrition back to traditional care for both personal and medical reasons. Often CenteringPregnancy groups consist of only 2-3 women by the final 36 weeks visit (personal communication with Birth Center Directors, L. Cole and J. Alliman, Spring 2010).

Critique of the current literature on CenteringPregnancy.

While this model has received a large amount of positive attention and funding, there has been little substantive criticism or critique of the model. One integrative review of the literature has been published, but only an abbreviated abstract-like summary of the full literature review was printed (Manat & Dodgson, 2009). Only one other article expressed any problems with the model, and that solely based on cost (Mooney, et al., 2008). In critically evaluating the literature on CenteringPregnancy, some important deficiencies in the research are especially relevant to this study.

Samples used for CenteringPregnancy research.

The research concerning the effectiveness of CenteringPregnancy has been conducted in many sites across the country, encompassing the South, Midwest, and Northeast (Baldwin, 2006; Grady & Bloom, 2004; Ickovics, et al., 2007; Ickovics, et al., 2003; Novick, et al., 2011). The methods of most of the studies are strong, with the largest study even randomizing women who agreed to participate in the trial into regular and CenteringPregnancy care (Ickovics, et al., 2007). While this increases the reliability of the study, there are key facets of all the studies that weaken their generalizability to other groups.

The most obvious methodological flaw is that only women who were interested in group care agreed to participation. Women who opt for participation in the research trials on group prenatal care may be in many ways different from women who chose not to try group prenatal care. For instance, they may be more social and more willing to participate in a group setting. While it is unethical to force people, and especially pregnant women, into research (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979), participation bias may skew studies as more social women opt to enter the trial, making maternal satisfaction of group care artificially high when compared with the feelings of average women.

The setting of the studies may also introduce bias. The three largest studies were conducted in large urban centers (Grady & Bloom, 2004; Ickovics, et al., 2007; Ickovics, et al., 2003). Ideal for the research, urban clinics have many potential participants and a large pool of comparison patients who had care within the same clinic. While these methods produce more reliable study results, they limit generalizability of findings. Consistent with a critical realist framework the larger context of the women's lives is a critically important component of whether programs are effective in improving health outcomes (J. B. Connelly, 2007). For instance, women in urban locations more often have access to public transportation, and a lack of transportation is consistently mentioned as a barrier in studies of women's perceptions of access to prenatal care (Phillippi, 2009).

Confidentiality may also take on a different feel in urban and rural settings. In a busy urban city, it may be easy to form a group of 8-12 women who have no previous knowledge of one another. While in a small rural town, it is very likely that members will have prior knowledge of one another, decreasing the feeling of anonymity within the group. Rural women may be reluctant to discuss personal matters if they feel the information might be spread as local gossip.

The racial composition of the CenteringPregnancy research participants is another limitation. The patient populations within these studies are heavily African American. The culture of urban, African American women may be different than other female populations. Therefore, it is difficult to generalize the acceptance of the model to other geographic, racial, and cultural groups.

It is interesting to note the participation and the attrition rates within these studies. The researchers may be successful in recruiting women to this new model of care related, in part, to their large pool of potential participants. Many studies were based in academic centers with ample patients. Large numbers of women in all studies declined participation in CenteringPregnancy care and some studies reported fairly high attrition rates (Table 1). One study even had high attrition rates from CenteringPregnancy despite financial incentives for participation (Baldwin, 2006). At least two studies commented that CenteringPregnancy care was attractive to participants because of long wait times for traditional care within their clinic while in contrast the group care started and ended on time (C. Klima, et al., 2009 992; S. S. Rising, 1998).

The high rates of women choosing traditional care instead of CenteringPregnancy care in the studies reviewed (Table 3) may reflect that many women do not find CenteringPregnancy acceptable, and this needs further research. The women in the clinic chosen for this study have low rates of acceptance of CenteringPregnancy and high rates of attrition from CenteringPregnancy care into traditional care. The sample clinic does not have long wait times when women arrive for their appointments, and the clinic does not offer incentives for CenteringPregnancy participation. The high rates of women choosing traditional care at the sample clinic is consistent with the literature, but no available research has explored women's choice of traditional care when CenteringPregnancy care is available.

Other models of group care.

Group health care has been used to provide variety of healthcare including diabetes (Riley & Marshall, 2010), primary care (Geller, Orkaby, & Cleghorn, 2011), metabolic disorders (Greer & Hill, 2011), is currently being investigated as a model for well-child visits (Centering Healthcare Institute, 2011b). However, a detailed investigation of group models is hampered by several factors, most notably the lack of consistency in terminology surrounding group care. There is no official definition of group healthcare. Some models of care are purely educational, supplementing the care provided by clinicians while other forms of group care replace clinician visits with group meetings. In addition, there is not an official heading for group healthcare within the Medical Subject Headings (MeSH) classification system used by the National Library of Medicine. The lack of official categorization of studies involving group healthcare make it difficult to obtain a gestalt of the literature on group healthcare.

With that caveat, the literature on group models to care shows that for many conditions, many types of group care positively affects health outcomes, especially those that respond well to education and behavioral change (Phillippi, 2010). Group models of care may better resonant with adult learners when compared to individualized care. Group models of care often incorporate time for critical reflection and dialogue, which are essential to adult learning (Merriam, et al., 2007). More information on how group healthcare stimulates learning for adults can be found in my 2010 publication in the *PAACE Journal of Lifelong Learning*.

However, data from other models of group healthcare may have limited usefulness when investigating CenteringPregnancy. As discussed in my unpublished concept review manuscript and consistent with critical realism, women may perceive group prenatal care differently than other types of group care due to cultural beliefs about sexuality, the body, and motherhood. Society has a different view of pregnancy than other conditions requiring medical care, in part related to its relationship to sexuality, and this may affect a woman's response to group care. How cultural beliefs about sexuality and pregnancy affect a woman's decision to decline group care will be explored further in the findings and implications sections.

In addition, CenteringPregnancy involves exposure of body, specifically the abdomen, within the group space which differs from how the other models of care are described within the literature (Greer & Hill, 2011; Pick, 2008). The higher level of bodily exposure in CenteringPregnancy when compared with other forms of group care may also affect women's response to care, especially in populations that value privacy and modesty. While group models of care have some similarities to CenteringPregnancy, there are key differences that limit the generalizability of findings from studies of other group healthcare when investigating reasons women decline group prenatal care.

Conclusion.

It is not clear from the literature why women choose traditional care when CenteringPregnancy is available. The literature on access to prenatal care lists many barriers to utilization of prenatal care that are related to the mother, clinic, or interface, or match, between the needs of the mother and the characteristics of the clinic (Phillippi, 2009).

Women who are the most vulnerable for poor perinatal outcomes within the US, those women from marginalized social groups, who live far from care providers, and who struggle with transportation and finances, stand to gain the most from CenteringPregnancy care, yet may be unable or unwilling to access this care. There is no published research on how women perceive access to CenteringPregnancy care, or how they make the decision between these two models of care. The lack of utilization of Centering in two clinics demonstrates the need for research in this area. In addition, large amounts of funding are being given to clinics to establish CenteringPregnancy programs; if local women do not find this version of prenatal care accessible and acceptable, the resources would be better spent on other perinatal programs.

Literature Specific to Appalachian Women's Views of Access to Prenatal Care

Little is written concerning Appalachian women's view of any type of prenatal care. A 2010 CINAHL search with the keywords Appalachian and prenatal revealed only seven articles, none of which had a direct focus on access to prenatal care. Overall, there is little to no information on how Appalachian women perceive their ability to obtain prenatal care. This study will help to fill the gap in the literature to clarify Appalachian women's perspectives on prenatal care access.

While qualitative information on Appalachian women's preceptions of prenatal is lacking, there is quantitative literature that provides information about women living in this region. Appalachian women have lower rates of high school graduation (Bailey & Byrom, 2007; Martin et al., 2009) higher psychosocial needs (Jesse, 2003), greater rates of prenatal depression (Jesse, et al., 2009) and poverty (Appalachian Regional Commission, 2010), higher rates of prenatal smoking (Bailey & Cole, 2009), and increased incidence of sexual abuse (Denham, 2003) when compared with national samples. These factors have been associated with poor perinatal outcomes in other studies using data from across the US (L. Williams et al., 2006). However, these associations are correlations that do not show the cause of the poor perinatal outcomes within the region.

Appropriate use of preventative care can increase the health of individuals and populations as it allows for teaching about modifiable health behaviors and detects abnormal conditions early (United States Department of Health and Human Services, 2010). However, Appalachian women have lower rates of timely healthcare screening, such as testing for cervical cancer (Schoenberg, Hopenhayn, Christian, Knight, & Rubio, 2005) and for treatment of health disorders (Browning, Andrews, & Niemczura, 2000; Denham, et al., 2004). Many sources confirm that the people of Appalachian are often reluctant or unable to access healthcare resources. People must often drive long distances to healthcare providers since public transportation is rare or non-existent in this region. In addition, roads are often blocked by down trees, flooding, snow, and ice (Behringer et al., 2007; Huttlinger, et al., 2004; Schoenberg, et al., 2005). The geography of the region may serve to as a causal force for the poor health (Eberhardt & Pamuk, 2004). In this way the outcomes are related to the population or the place rather than culture of genetics of the region (Hartley, 2004; Huttlinger, et al., 2004)

Lack of utilization of care may go beyond distance and roads conditions. Qualitative literature reveals that many Appalachian people have a distrust of outsiders and are reluctant to discuss unpleasant symptoms or problems (Browning, et al., 2000; Caldwell, 2007; Gobble, 2009). This distrust may act as a causal mechanism on women's choice of traditional prenatal care instead of group prenatal care. Consistent with critical realism, values and beliefs act as causal mechanisms which influence an individual's actions and choices (Collier, 1994).

Conclusion

Prenatal care, especially comprehensive care including health information and counseling, has the potential to improve the health of the woman and fetus during the perinatal period and throughout the lifespan (Kotelchuck, 2003). CenteringPregnancy has been shown to be more effective in reducing rates of preterm birth and low birth weight when compared to traditional care. However, nurse-midwives at clinics in East Tennessee have had trouble convincing women to utilize CenteringPregnancy care. This may indicate that the format of care is unacceptable to women, or they are unable to participate in the care. Characteristics of the women in the Appalachian region may be an important component of this phenomenon and warrants further study. There is currently no literature on Appalachian women's views of prenatal care or their ability or desire to access CenteringPregnancy care. This study will contribute to the knowledge base in all these areas.

Chapter 3

Methods

Setting of Study

The birth center.

The free-standing birth center used for recruitment is in the Southeastern US along the edge of the Appalachian mountain chain. Founded in 1983 as an access point into maternity care, the center's mission is to, "increase access to prenatal care and well-woman care, *regardless of patient's ability to pay,"* (location of quotation withheld to protect identity of center.) The sample birth center provides full scope care using certified nurse-midwives who are licensed as Advanced Practice Nurses and certified by the American Midwifery Certification Board. Care provided by the certified nurse-midwives, also known as midwives, includes well-woman, antepartum, intrapartum, postpartum, and basic primary care to women from puberty onward and basic primary care and assessment of normal newborns up to 28 days of life (American College of Nurse-Midwives, 2007).

Accredited by the Commission for the Accreditation of Birth Centers (CABC), the center is also a designated rural health center. A description and history of accredited birth centers in the US can be found in my 2009 publication (Phillippi, Alliman, & Bauer, 2009). While CABC-accredited birth centers only allow low-risk women to labor and birth on-site, the sample center is an access point for prenatal care for women with a variety of higher-risk conditions and primary health care needs (American Association of Birth Centers, 2007; Phillippi, et al.). Women who are not low-risk can give birth in the local Level I hospital in the care of the Certified Nurse-Midwives or at the regional medical center in the care of the residents or perinatologists.

The center has worked to provide open channels of access to prenatal care in a variety of ways. The clinic has staff assist uninsured women apply for Medicaid. Evening clinic hours help women who work or who share a vehicle with someone who works during business hours. A bilingual receptionist answers the phone, and two out of three clinicians are fluent in Spanish. In addition, the center offers well-woman care, well-child care in the evenings, and has a physician on-site for primary care visits one day a week. In this respect, the birth center acts as an access point for prenatal and healthcare within the community.

The larger community.

The birth center is located in a rural county of approximately 46,000 people as stated by the 2010 Census (U.S. Census Bureau, 2011). In 2009, the median income was estimated at approximately $36,000 and 20.6% of the county was living below the poverty line (U.S. Census Bureau, 2010), which is a higher poverty rate compared with more urban counties nearby (State of Tennessee Department of Economic & Community Development, 2008). Eighty-five percent of the 2010 obstetric patients at the center had some sort of federal or state funding to pay for their prenatal care; only 13% of the Center’s 2010 obstetric population had private insurance (Center Internal Data, 2010).

The county is mountainous as well as rural. One-third of county land is within a designated national forest (State of Tennessee Department of Economic & Community Development, 2008). Mountainous roads make travel to medical appointments more difficult and increase the possibility of weather-related transportation problems due to flooded roadways, down trees, and other poor roads conditions (Behringer, et al., 2007; Schoenberg, et al., 2005).

The 2010 obstetric patients of the center predominately lived within the county (32%) or immediately adjacent counties (47%) (Center Internal Data). Nineteen percent of their obstetric population had to cross at least 2 county lines to obtain care. Many of the adjacent counties are without any obstetric providers (Tennessee Department of Health, 2004).

The racial composition of the sample, the Center's 2010 patients, and the county, using terminology consistent with the Tennessee birth certificate, is shown in Table 2. The center has a higher percentage of Hispanic clients than the surrounding area, in part related to the Spanish speaking staff and their mission to provide care to the most vulnerable in the community.

State Medicaid.

Consistent with critical realism, larger societal structures and policies exert a casual influence on the decisions of individuals. In this context, several state policies are relevant to the study of prenatal care access. The center is located in a state with generous eligibility requirements for its state-administered Medicaid waiver program. The state uses a combination of federal and state funds to provide for the care of pregnant women, children, the poor, and uninsurable. The state Medicaid program allows resident, citizen pregnant women who make less than 185% of the federal poverty level to obtain perinatal care at no cost. The state also allows non-citizens, and citizens making under

250% of the federal poverty level to obtain all care in pregnancy, during labor and postpartum with only a $5 co-pay as part of a program to improve the health of newborn citizens (location of reference withheld).

Design

A qualitative descriptive study design was used (Sandelowski, 2000). Interviews were conducted with women using techniques described by Patton (2002). In addition to interviews, demographic questionnaires (Appendix B) were completed after the interviews to provide additional data without prompting discussion (Creswell & Plano Clark, 2007). The method of analysis was qualitative descriptive content analysis, more specifically conventional, inductive qualitative content analysis examining manifest interview content (Elo & Kyngas, 2008; Hsieh & Shannon, 2005).

Participants

Adult pregnant women receiving care at the sample center who declined CenteringPregnancy care were eligible to participate at any point during their pregnancy. At the time the study was begun, there were only English–speaking Centering groups available. Therefore, women who did not speak English were excluded from the study. Women less than 18 years old were excluded.

Recruitment.

In February 2011, a nurse-midwife at the center identified names of applicable women through a chart review of all antepartum clients. (At the sample center the nurse-midwives mark patient’s charts when they accept or decline CenteringPregnancy care.) A recruitment flyer was placed within the chart of all eligible women and the receptionist distributed the flyers when women checked in for their next appointment.

In addition, recruitment flyers were placed at eye level in all the exam rooms and waiting areas. During the first few weeks of recruitment, interested women wrote their name and a contact number at the bottom of the flyer and placed it within a box at the front desk. Every few days, the receptionist would mail the box to the primary researcher who then attempted to contact the women to describe the study and set up an interview. This method resulted in only two interviews, despite many women expressing interest. Women were difficult to reach by phone, would forget the appointment time, or would cancel due to unexpected circumstances. The two recruited women were of high socio-economic status and had ample social support. The planned nature of the interviews made it more difficult for vulnerable women, who struggled with prenatal care access, to participate.

After several weeks of difficulty, a second recruitment method was developed and approved by the Institutional Review Board (IRB). With this recruitment method, the primary researcher waited at the Center for women to be available for interviews. At the beginning of the clinic day, the nurse-midwives identified eligible women via chart review and informed the receptionist of potential participants. The receptionist alerted me when a potential participant arrived, and I would approach her to give her a flyer, invite her to participate, and let her know where I was located. If the woman wanted to participate, she would come to the interview room after her prenatal visit.

Interviews.

Twenty-eight interviews were conducted at the center. One pre-scheduled interview was conducted at a library per participant choice. Most interviews at the center were conducted in the lactation room that included a small table, three chairs, and some toys. Two interviews were conducted in the center's family room, which had very similar accommodations. At the midwives' request, one interview was conducted in the exam room as the woman had contagious parasites that could infect the upholstery in the other rooms.

All interviews were begun with casual introductions. After the purpose of the study was explained, if the woman wished to continue, I summarized and read the informed consent document until it was clear that the woman could read. I highlighted key points about confidentiality, right to end participation, and consent for re-contact to review results. Following written consent, each woman was given a $15 gift card, and two digital recorders were activated. Verbal consent was obtained on the recording as well.

For the first 24 interviews, several semi-structured questions were asked of each participant.

1) What helps you get prenatal care? Has this changed over the time you have been pregnant?
2) Are you getting what you want out of prenatal care? What do you want to get from prenatal care?

3) You choose traditional prenatal care, with just you and the midwife, instead of CenteringPregnancy care, tell me about that.
4) Is there anything else you would like to tell me about your ability to get prenatal care?

The last five interviews were used to gain more insight on the women's reasons behind declining Centering and clarify gaps within the existing data. The questions during the final five interviews were less structured and focused on how the woman made the decision in favor of traditional care, how long the decision-making process lasted, and her understanding of Centering care.

Following the interview, the recorders were stopped and a demographic questionnaire was administered. Any contextual information provided by the women after recording stopped was included in field notes. After the woman left, I dictated field notes that included interview location, participant recruitment method, conditions surrounding the interview, and important non-verbal behaviors per Patton (2002). Field notes contextualized the interview data, reducing the chance of misinterpretation (Pyett, 2003). The questionnaire and field notes were marked with the interview number to link with interview transcript.

Interviews were conducted until the same information was heard at each interview, with no substantially new information being revealed, known as saturation of findings (Creswell, 2007). After twenty-four interviews, the women's comments did not contain new information and analysis of the transcripts was begun. After initial coding by the researcher and two committee members, it was determined that there was little depth to the data on the choice to decline Centering care, and five more interviews were conducted with a primary focus on the choice to decline CenteringPregnancy care. Four out of the five final interviews had considerable depth and revealed that these women did not give much thought to the decision. One participant described it as a "snap" decision and another said, "that was real easy for me to make. I was like no. No, no, I did not want to be in a group."

The final five interviews were difficult to obtain as most of the women at the clinic for appointments during the last week of data collection had already been interviewed. The difficulty in finding participants and the demographic profile of participants suggest the sample adequately represented the Center's population of English-speaking women who do not utilize CenteringPregnancy care.

Participant Protections.

Participant rights and confidentiality were protected throughout the research process. Pregnant women are a vulnerable population for research studies (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). With this in mind, the study was designed to provide no risk beyond activities of daily living to the mother and fetus. Only adult women who already declined to enter CenteringPregnancy were interviewed to avoid influencing women's choice away from the superior model of care (Ickovics, et al., 2007). The interview questions were designed to gain the woman's perspective on care and not dissuade her from prenatal care participation. All questions were positively phrased and woman-focused, reducing the risk of the participant having a negative emotional response (Wood & Ross-Kerr, 2011).

Women under the age of 18 were excluded due, in part, to the difficulty of obtaining informed consent for minors. While a pregnant woman under the age of 18 can consent to medical care for her fetus or minor child, she must obtain parental consent to participant in research. Many pregnant women under the age of 18 who seek prenatal care at the sample center no longer residing with a custodial parent; asking women to get consent from a parent might expose them to danger or violence if their parents did not know of their pregnancy and/or were unsupportive or abusive. The nurse-midwives screened charts to find eligible participants and did not place flyers in charts of women who were not legal adults.

On first contact with the potential participants, I described the purpose and procedures of the study and included that participating or not participating would not change their prenatal care and they could decline to participate at any time without penalty. I described that the interview would be recorded but their voice and words would not be associated with their name.

Immediately prior to the interview, I explained the informed consent document to the participant, verbally describing the document until it was clear the woman could read the text. (One woman was read the document.) After signing the informed consent, I obtained verbal consent on the recording. I offered a copy of the informed consent document but did not require that she keep a copy to reduce her risk of domestic violence.

A $15 dollar gift card reimbursed the participants for their time and/or gas costs. This amount was chosen to be fair to the participant and to not be so large as to be coercive (McNeil, 2003). The common rate cited in the literature for reimbursement for participation in research was $10 per hour (Steinke, 2004). It was anticipated that the interview would take an hour and the transport time to and from the interview site was estimated to be about half an hour.

A licensed medical transcriptionist transcribed the recordings after signing the University of Tennessee's confidentiality agreement. In addition, the chosen transcriptionist did not live within the same city as any participant. Digital audio recording files were given to the transcriptionist either through hand delivery or the University of Tennessee's Accellion or Vault secure file transfer service. There was no link to the participant name from the recorded audio or the transcripts. When not in use, consent forms, and transcripts were stored in a locked file cabinet in my home. Digital recordings were stored on my password-protected computer; following completion of the dissertation, they will be completely erased.

Once the audio recordings are destroyed, the transcripts, demographic questionnaires, and field notes will be treated as de-identified data, as described in the IRB application. Electronic copies of the transcripts, questionnaires, and field notes will be kept as de-identified data on a password-protected computer indefinitely for future analysis. Consent forms will be stored in Dr. Carole Myer's office at the College of Nursing for three years and then destroyed.

Protection of participant identity extends to publication of the findings. Since there is only one rural birth center in East Tennessee, I included no identifiable quotes or demographic information in the study findings. The fairly large sample size for a qualitative study, and the surprising overlap of participants' quotes made this fairly easy.

Analysis

Conventional qualitative content analysis, as described by Hsieh and Shannon (2005), Elo and Kyngas (2008), and Graneheim and Lundman (2010), was used to analyze the data for reasons described previously. Qualitative content analysis has been used for research in many disciplines including nursing, communication, journalism, social sciences, and humanities (Holsti, 1969; Mayring, 2000), and its use in nursing research has increased dramatically since 2000 (Elo & Kyngas, 2008).

Researchers using conventional content analysis develop categories of data inductively rather using the literature as a guide (Hsieh & Shannon, 2005). Conventional qualitative analysis is ideal, "when existing theory or research literature on a phenomenon is limited," (p. 1279) and the goal of the researcher is, 'gaining direct information from study participants without imposing preconceived categories or theoretical perspectives," which was the case for this study since there is no published literature on reasons women decline care or Appalachian women's perceptions of prenatal care (p. 1280).

The value of participant voice, context, meanings and interactions within the qualitative descriptive approach, and more specifically conventional content analysis, is congruent with the larger framework of critical realism as both the framework and the method values qualitative and quantitative data in understanding complex phenomenon that are caused by agency-structure interactions and deeper causal mechanisms (Clark, et al., 2008). In addition, both critical realism and content analysis validate the voice of the participant and the role of context in describing a phenomenon and explaining decisions, choices, and interactions.

Steps in conventional qualitative content analysis.

Analysis was based on the methods presented by Elo and Kyngas (2008) and Graneheim & Lundman (2010). While the Elo and Kyngas and Graneheim and Lundman provide a detailed pathway of analysis with a series of steps, they note that content analysis is a non-linear and often recursive process.

Data collection and data analysis for this study were concurrent and sequential. Information obtained from one participant informed the questioning of subsequent participants as additions to the semi-structured interview questions. Interviews were conducted until saturation of preliminary findings was achieved (Patton, 2002). After preliminary analysis, more data was collected to fill in gaps in understanding prior to final analysis.

Data immersion.

Data analysis began by listening to audio interviews and reading transcripts repeatedly to develop an understanding of the whole of the data (Elo & Kyngas, 2008). The goal was a sense of the whole of the data and an understanding of, "what is going on," in the words of the participants (Elo & Kyngas, 2008, p. 109). Transcripts were read while listening to the recording to confirm transcript accuracy and to ensure important tone and non-verbal behaviors were noted within the transcript. For instance, during one interview a woman was describing her choice not to use Centering and to sum up why she could not attend group sessions, she pointed to her 18 month-old daughter who was intensely trying to open the file cabinet. Words with strong intonation were underlined within the transcript to reflect emphasis. This is consistent with Potter and Levine-Donnerstein (1999) who state manifest content includes all overt behaviors during communication. Ideally, the transcript reflected the woman's actual speech, including euphemisms and inaccurate grammar, to best convey her meaning. For instance, the participant quote, "I ain't never done nothing like that," was not adjusted to conventional English.

Following verification and inclusion of other overt behaviors, transcripts from the initial 24 interviews were read several times prior to coding (Bureau., 2010; Elo & Kyngas, 2008). After initial immersion, the transcripts were entered into the ATLAS-ti system. ATLAS-ti was used to organize codes and develop graphical representations of the data. The use of qualitative coding software improves study reliability by decreasing the likelihood of lost information and codes (Elo & Kyngas, 2008). After initial data analysis, 5 more targeted interviews were conducted to address gaps within the CenteringPregnancy data. When transcripts from all 29 interviews were available, the data immersion process was repeated prior to re-coding.

Analysis.

Elo and Kyngas (2008) and Graneheim and Lundman (2004) suggest the unit of analysis should be, "large enough to be considered whole," and small enough to be cognitively manageable, and they recommend entire interviews as units of analysis. The unit of analysis for this study was the data collected from one woman: the interview, questionnaire and field notes. This allowed the concerns of each woman to be viewed together as a whole, with the demographic questionnaire and field notes used to contextualize the data.

Consistent with Elo and Kyngas, I separated out meaning units, defined as, data "related to each other through their content and context," (Elo & Kyngas, 2008, p. 109). The two meaning units for this study were the information concerning the woman's decision to decline Centering and her statements about what helped her get prenatal care. The meaning units will be discussed separately in Chapter 4.

Following immersion and identification of the meaning units, the data was coded using the open coding techniques described by Elo and Kyngas (2008). I open coded all of the first 24 original documents. Two committee members were also given different subsets of the interviews and independently performed open coding separately. Codes from all three researchers had a high concordance in identifying main themes.

After this initial data analysis, it was clear the information on decision to decline Centering care was thin. It was not obvious if this was due to an inexperienced interviewer, a lack of participant understanding, or if the women had not spent much time on the decision. Five more interviews were conducted to clarify and deepen the understanding of the decision-making process.

The final five interviews revealed no new themes but provided substantial depth to existing codes. The final five interviews revealed that the women made the decision to decline Centering quickly, without substantial thought; this helped to explain the lack of thick, rich description surrounding the decision process. In contrast, the 29 interviews did present a thick, rich description of why the participants were choosing birth center care, even though this was not an interview question.

Following the completion of all interviews, the researcher performed open coding again on all the transcripts. Two meaning units were apparent for analysis: the decision to decline CenteringPregnancy and facilitators of prenatal care. Meaning units were then examined carefully and all codes within two meaning units carefully read and assessed.

Codes were examined for overlap and value within the meaning units. Redundant codes were combined, and the core meaning of codes defined and refined, a process known as distillation (Elo & Kyngas, 2008). At this point, each quote for a code was read again and a definition for the code written and housed in ATLAS-ti. All the quotes within the code were then re-read to ensure the definition was correct, comprehensive, and all quotes within the code matched the definition.

Within each meaning unit, codes sharing commonalities were grouped into categories. Categories are created “to provide a means of describing the phenomenon, to increase understanding, and to generate knowledge.” (Elo & Kyngas, 2008) p 111. Quantitative methods of content analysis state that categories must be exhaustive and mutually exclusive (Krippendorff, 1980); Elo and Kyngas, however, state that the categories in qualitative content analysis do not have to conform to these rigid rules due to the “intertwined nature of human experience,” (p. 107). Therefore, one woman’s comments can be found in multiple categories. The process of forming the categories and reducing them to their essential meaning is known as abstraction (Elo & Kyngas). The codes and categories were then shared with two committee members to gain their input and increase the credibility of the data. After initial findings were complete, member checking was used to verify accuracy of findings. Women who had consented to be re-contacted were e-mailed with the preliminary findings of the study. In addition, the midwives at the sample center and a similar center nearby read the preliminary findings and to see if they were consistent with their knowledge. One woman and four midwives wrote back to confirm the study findings.

Rigor and Trustworthiness

Study validity is of crucial importance; results need to be valid to properly inform future policy and practice (Kearney, 2001). Study findings should accurately reflect the participants' perspective and be free from underlying bias or distortion (Creswell, 2007). There are many sources discussing the components of rigor in qualitative research, some specific to a particular method or perspective (J.M. Hall & Stevens, 1991) and others more general (Creswell; Lincoln & Guba, 1985; Morse & Field, 1995). Graneheim and Lundman (2010) specifically address trustworthiness in qualitative content analysis and their suggestions, and those from more generalist sources, have been incorporated through study design. These measures are best discussed in the stages of the research process in which they appeared.

Planning.

Creswell (2007) and Lincoln and Guba (1985) advise prolonged time exploring the topic within its natural setting in order to develop a large base of contextual knowledge of the problem and its larger social context. Eighteen months before beginning research, I worked as a nurse-midwife at the study location. During this time, I was able to briefly explore women's thoughts on CenteringPregnancy care as was relevant to their clinical care, and used this information to guide my research questions. I was also able become familiar with the availability of prenatal services within the area. Greater than nine months prior to beginning the study, I stopped working as a midwife at the clinic, in part to avoid the ethical problem of being both the woman's care provider and a researcher.

During data collection, I spent days at the Center waiting for potential participants and being engaged with the clinic staff and patients. This allowed me to gain a sense of the milieu of the clinic. Patton (2002) states the inclusion of contextual data to inform analysis is a "design check," to acknowledges data limitations and prevents reckless extrapolation. Lincoln and Guba (1985) classify prolonged engagement as a form of contextual validation.

Data collection.

Several steps in data collection increased the trustworthiness of the data. The interview process and research questions were reviewed by expert researchers at the University of Tennessee to ensure the questions addressed the research focus. Warm-up questions built rapport and put participants at ease before discussing of declining Centering (Shaw, 2005). The same set of questions was used for each of the initial 24 interviews to encourage a baseline level of uniformity (Elo & Kyngas, 2008; Patton, 2002). Additional clarification questions were added as needed to understand the participant's point of view (Patton, 2002). The final five interviews were used to clarify areas of ambiguity and deepen understanding of how long it took the women to choose a format of care.

A demographic questionnaire was administered after the interview to contextualizing the women's experiences (Creswell & Plano Clark, 2007). The demographic questionnaire was reviewed for completeness, accuracy, and cultural relevance by D. Elizabeth Jesse, an NIH-funded expert quantitative researcher whose research focuses on pregnant Appalachian women (Jesse, 2003; Jesse & Alligood, 2002; Jesse & Reed, 2004; Jesse, et al., 2003; Jesse, et al., 2009)

Following the interview, field notes were dictated and included contextual information suggested by Patton (2002), including description of location, non-verbal behaviors, and any information relevant to the study that was not captured by the audio recording. Often women disclosed large amounts of information as they completed the demographic questionnaire, after the recorders had been turned off. For instance, many women talked about their housing and transportation situation or discussed the role of their partner in the decision-making process. This information was included in the field notes. Per Patton, the field notes included how the recruitment method, the presence of children or spouses during the interview, and important non-verbal communication such as gestures. I used the field notes and questionnaires often during analysis to broaden my understanding of the woman's larger world. Pyett (2003) and Patton state inclusion of context encourages researcher reflexivity, reducing bias.

Analysis.

There were many safeguards in the analysis process to enhance the rigor and transparency of the study. Data were collected until saturation of findings, as verified by the main researcher (Creswell, 2007); when multiple participants have similar statements, it increases the validity and credibility of the data (Elo & Kyngas, 2008).

The data was then reviewed and independently coded by the researcher and two members of the dissertation committee. The strong concordance of the codes and themes when compared across researchers strengthened the validity of the findings. Following this initial review it was apparent that while there were clear themes, the data lacked richness and depth. Five targeted interviews were conducted to enhance the data and provide greater insight into the decision-making process. The data was then re-coded and shared amongst the three researchers to ensure that codes were accurate and comprehensive of the information found within the data, known as consensual validation (Creswell, 2007).

Transcripts and field notes were coded within the ATLAS-ti system. Once the data was coded, similar codes across transcripts could be easily retrieved, reducing the chance of missed codes or meaning units (Elo & Kyngas, 2008). ATLAS-ti allowed for the easy creation of a codebook of code definitions, meanings, and exclusions. The definition of each code could be easily verified by clicking on the code icon, facilitating correct use of codes. ATLAS-ti displayed the relationships of codes and themes and allowed the researcher to view the quotes and definitions linked with each code, theme, and sub-theme. In addition, the ATLAS-ti system allowed for collaboration and verification from the dissertation committee, increasing the ability to achieve consensual validation (Creswell, 2007).

Member checking further ensured the validity. Participants who agreed to be re-contacted during the informed consent process were e-mailed and called to verify study findings (Creswell, 2007). Of 12 participants contact by e-mail, one responded that she felt the data analysis was correct. Of eight participants called via the phone numbers provided on the informed consent document, none were able to be contacted, mostly due to wrong numbers and a lack of response to my voicemail message.

Lincoln and Guba (1985) state that a broad array of data sources can be used for triangulation and validity. All the midwives at the sample clinic were sent the preliminary findings. One midwife responded with a detailed e-mail supporting the findings with her experiences, and another midwife approved the study with a brief confirmation. Two midwives from a similar birth center within the region were also shown de-identified preliminary findings, and they both sent an e-mail with their experiences confirming the results. With these confirmations, it is assumed that the study findings are a credible and sufficient representation of the facilitators of prenatal care for Appalachian women and the reasons Appalachian women decline Centering care (Lincoln & Guba, 1985).

Reporting.

Elo and Kyngas state that the researcher should be careful to include, “a clear description of the context, selection, and characteristics of participants, data collection, and results,” (2008, p. 112). This is also consistent with critical realism’s value of context in the interactions of people and structures (Clark, et al., 2008). The study findings include detailed background and contextual information to present a richer picture to readers and discourage over generalization of results.

Transferability.

While many of the steps above ensure study results meet qualitative standards of reliability and validity, also known as credibility, dependability, and confirmability, the theoretical perspective of critical realism prohibits wholesale transferability of findings to other populations (Clark, et al., 2008). Consistent with critical realism, it is assumed that women have different realities. Due to their individual circumstances in interacting with local structures (J. B. Connelly, 2007), such as the clinic or the format of prenatal care, it is difficult to know if other women will have the same experiences without further investigation. Graneheim and Lundman (2010) admit that transferability has limited value in content analysis. However, they suggest that authors provide detailed descriptions of populations and research findings, allowing readers the background to make inferences about the value of the data in other populations. There is currently no qualitative literature describing women's choices surrounding CenteringPregnancy care or how the new format of care affects their ability to access prenatal care (Phillippi, 2009). Any new knowledge would broaden clinicians' understanding of women's perception of CenteringPregnancy care.

Even though there is no extant literature on reasons women decline Centering care, there are two qualitative studies of women in Centering care (Kennedy, et al., 2009; Novick, et al., 2011). In these studies, women have similar concerns about the Centering model, suggesting that the study findings may have value across populations. However, further research is needed.

It would be ideal to repeat this study with a diversity of populations to determine if women across geographic regions and cultures share the same concerns about the group model of care. However, until more research can take place, it is worthwhile for clinicians to talk with their clients about concerns surrounding Centering care and make adjustments in their presentation of the model to be more appropriate for the women they serve. Implications for practice, policy, and research will be explored in further detail in Chapter 5.

Chapter 4

Findings

The findings chapter will focus on answering the primary research question, "What influences Appalachian women's choice of traditional prenatal care instead of CenteringPregnancy care?" A more condensed set of findings for clinicians are outlined in the Phillippi and Myers manuscript in Appendix A. The secondary research question, "What are Appalachian women's perceptions of prenatal care and their access to prenatal care?" did not have a rich data except in describing what facilitated women in receiving prenatal care.

Participants expressed a wide range of opinions concerning prenatal and intrapartum care. However, women had little to say about their decision to decline Centering care. They were much more talkative on what helped them get prenatal care and were loquacious about their decision to receive their care at the birth center, even though this was not a question. The information concerning birth center care was used to inform the analysis and provide context to the women's comments but was not specifically analyzed as its own meaning unit. This information may be examined in a future analysis.

Demographic Information

Demographic information for the twenty-nine participants is summarized in the Table 1.

Table 1: Demographic Questionnaire Data for the 29 Study Participants

Question	n (%)
How many times have you been pregnant?	
Once	7 (24.1)
Twice	8 (28.6)
Three times	8 (28.6)
Four or more times	6 (20.7)
How many times have you given birth?	
Never	8 (28.6)
Once	13 (44.8)
Twice	5 (17.2)
Three or more times	3 (10.3)
How many children are in your home during the day?	
None	8 (28.6)
One	10 (34.5)
Two	6 (20.7)
Three or more	5 (17.2)
How many regularly sleep in your home?	
None	7 (24.1)
One	11 (37.9)
Two	5 (17.2)
Three or more	6 (20.7)
Do you work outside the home?	
No	17 (58.6)
Yes	12 (41.3)
How many hours a week?	
1-20	4
21-40	8
What do you?	
Service-level jobs (waitress, cashier, salesperson, tutor, cosmetology)	5
Business related (clerical, billing, owning a business)	5
Manufacturing	1
What was the highest grade or year of college completed? (GED = 12 years)	
Less than 12	4 (13.8)
12- 15	22 (75.8)
16 or more	2 (6.7)
No answer	1 (3.4)
How involved is the father of the baby? (Likert-type scale)	
Very involved	25 (86.2)
Involved	3 (10.3)
Not involved	0
Never involved	1 (3.4)

Question	n (%)
Were you using any birth control when you got pregnant?	
No	21 (72.4)
Yes	8 (27.6)
Were you trying to have a baby when you got pregnant?	
No	17 (58.6)
Yes	11 (38.9)
Maybe	1 (3.4)
Do you have reliable transportation? (Likert-type scale)	
Always	23 (79.3)
Most of the time	6 (20.6)
Not usually	0
Never	0
How do you get to your prenatal appointments?	
Drive self	21 (72.4)
Ride with father of baby / family members	7 (24.1)
State-sponsored van	1 (3.4)
How far do you have to drive (in minutes) to get to you prenatal appointments?	
Range 10 - 480 Mean 82.5 Median 20	
Do you have responsibilities that are stressful to you?	
No	18 (62)
Yes	11 (38.9)
What are they? (Women often entered more than one item)	
Children	6
Household/housing	4
Work/job	5
Loud noise from chickens, dogs, and guns	1
Relationship	1

The demographic questionnaire provided a large amount of background about the women's lives and often got them talking about their daily stressors. A few items on the questionnaire deserve further elaboration. Lack of childcare is frequently listed as a barrier to prenatal care access in the literature (Phillippi, 2009), and one study suggested women with previous children were less likely to choose Centering care (Kennedy, et al., 2009). Women often care for their biological children during the day and may be responsible for others, including step-children, family members' children. In addition, many women provide childcare as an income source. There were several questions on the demographic questionnaire designed to assess women's involvement with children, including questions on their parity and the number of children in their home in the day and night (Phillippi, 2009). Twenty-two women only cared for their biological children during the day and one woman provided paid childcare during the day. Three women shared housing with family members who also had children; these women commented that they watched their family members' children during the day as part of the housing arrangement. Two women had children away at school during the day, and one woman did not have custody of a previous child.

Information about whether their pregnancy was planned was included on the questionnaire as a woman's attitude toward her pregnancy affects her desire to enter prenatal care (Messer, Dole, Kaufman, & Savitz, 2005; Phillippi, 2009) and may affect her desire to talk about her pregnancy with other women. The majority of women (58%) in the study were not trying to have a baby at the time they became pregnant, but only 34% of the women were using any form of birth control to prevent conception. This is comparable with the national average of only 38% of sexually active women using any form of contraception (Mosher & Jones, 2010).

Involvement of the father of the baby has been linked with desire for prenatal care (Patterson, et al., 1990). In addition, if the father of the baby is involved in the pregnancy, his preferences for prenatal care format may affect the woman's decision. The question was not operationalized to state what 'involvement' meant, and women interpreted this broadly, as one woman stated that her incarcerated partner was 'very involved.' Since all but one woman stated the father of the baby was involved or very involved, this question provided limited information on the role of the father in the access or the decision to decline CenteringPregnancy. Only two women mentioned that their partners' needs and wishes were important in deciding about the format of care, suggesting the father of baby is not a major force in the process but this needs further exploration in future research.

Transportation time needs further exploration as there were three clear outliers in the data. One woman was driving several hours because of a long delay in her ability to get Medicaid in her new state. Two other women were commuting from another state in order to have birth center care. If the three women from other states were excluded, the mean transportation time to the Center for local women was 25 minutes. Transportation time may include simply time in transit or can also include time to find a parking space and walk to the clinic, a common problem for urban clinics (McLafferty & Grady, 2004). The sample clinic has free parking immediately adjacent to the entry door, therefore all transportation times represent time in transit to the center.

The racial classifications of study participants are displayed on the following page in Table 2. The lower proportion of White/Hispanic mothers in the study when compared with the Center's population is most likely due to the fact that English-speaking was a requirement for inclusion.

Table 2: Racial Composition of the County, Center, and Sample

Race	Participants	Center	County (U.S. Census Bureau, 2011)
White/ Non-Hispanic	83%	56.9%	93.8%
White/Hispanic	14%	38.6%	1.4%
Black/African American	3%	2.5%	2.6%
Other	-	1.5%	2.0%

The demographic questionnaire was useful in providing contextual information. Since it was placed at the end of the interview, most women were primed to talk and used the questions as a springboard for discussion about their lives. Women would mention their current hardships such as housing troubles, relationship stressors, supportive and unsupportive family members, and financial woes. Many of the women were trying hard to keep their families in decent housing and their narratives of hardship accentuated their comments on the value of compassionate and personalized care. The women were often barely keeping their lives together but were proud of themselves for making it through the day or the week housed and fed. It seemed as if their prenatal care visit may have been the only time the women had someone focused on meeting solely their needs. It is during this segment of the interviews that I felt that I got to know the women themselves, beyond their feelings on prenatal care access and format. However, this information was not recorded for inclusion in the transcripts.

Since I did not know the backdrop of their lives during the question portion of the interview, I was not able to see the connections until the analysis phase. The women with complicated lives often feared exposure within the group setting or did not like groups. The woman who was living with 10 others because her mobile home was destroyed felt embarrassed by her circumstances and made comments at the end of the questionnaire that others wouldn't understand her complicated life. This will be discussed in more depth in a later chapter.

I expected that the population of women would be tied to the geographic area of Appalachia which has both geographic and population-based cultural characteristics according to the literature (Behringer, et al., 2007; Browning, et al., 2000; Denham, et al., 2004). However, as I was conducting interviews, it became clear that many women had recently moved to the area. Since this was not on the demographic form, I began asking women informally where they went to high school, which is a friendly local way of assessing where someone is from and whether you share any social contacts. Only one woman I asked had graduated from a nearby high school. All the others had moved to the area in adulthood. Participants had been born in locations across the nation and two other countries. The implications of this diversity will be discussed further in the discussion section of this chapter.

The demographic questionnaire provided a wealth of information about the women, but further depth would have improved the analysis. The questionnaire should be revised for future research to include more information on housing, race and ethnicity, weeks of pregnancy at first prenatal visit, insurance payer status, and how long the participant had lived in the area.

CenteringPregnancy Meaning Unit

As described within Chapter 3, the information provided by the women was divided into two meaning units, CenteringPregnancy and facilitators of prenatal care. The CenteringPregnancy meaning unit results are summarized in the findings manuscript in Appendix A and key participant quotes can be found in Tables 4 and 5. Within the CenteringPregnancy meaning unit, there were three overarching categories. A visual depiction of the categories within the CenteringPregnancy meaning unit can be seen in Figure 2.

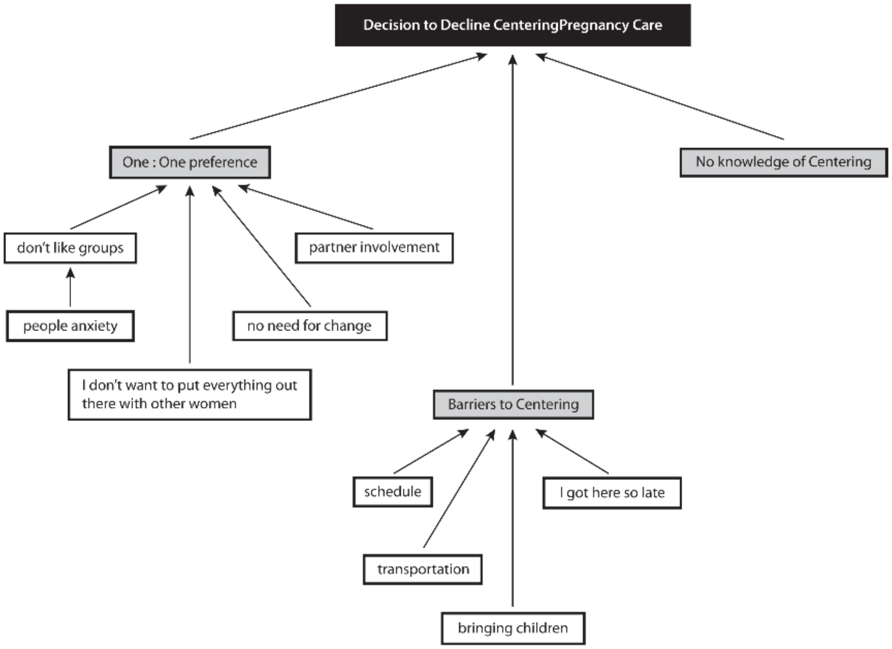

Figure 2: Categories and Subcategories of the CenteringPregnancy Meaning Unit

I will list the three categories and then provide a detailed explanation of each category in sub-sections. Comments from one woman may fall into more than one category. This is consistent with qualitative content analysis as outlined by Elo and Kyngas (2008) and with acknowledgement of the open and intertwined nature of reality and experiences in critical realism. While I have included counts of the number of women whose comments are included within a category, this is solely to aid the reader in understanding the prevalence of a category, not place value or tabulate responses as would be common in quantitative research (Krippendorff, 1980).

With two exceptions, study participants only had one reason for declining Centering care; they did not want to utilize group care, wanted to participate but could not for some reason, or did not know group care was an option. Seventeen women interviewed chose not to participate in group care as they preferred individual care. Eight women stated that there were barriers to participation in Centering care; some of the women reporting barriers expressed that they would have preferred to participate in Centering while other women did not disclose their preference for care. Five women stated they were never offered the choice to enter group care.

One: one preference.

A preference for one-to-one care was the most common reason for declining Centering care. When this was explored further, women gave reasons that fell into four subcategories: don’t like groups, don’t want to put everything out there with other women, no need for change, and partner involvement. Women often expressed more than one reason that they preferred individual care. Relevant participant quotes for this category can be viewed in Table 4 in Appendix C

"I am not a group person"- Women who do not like groups. Six women declined group care solely because they would have to be in a group setting. These women did not feel comfortable in group settings of any kind. One woman had used Centering with a previous pregnancy and felt, "there was just too many people for me." Another woman stated, "I'm not a group person because, like we had to do the group thing with WIC, and they're all like, 'What questions do you have?' I'm like, 'I just want to go home.'" Several women in this group mentioned that they believed they would be reluctant to speak up during the group. "I don't like a lot of people. It makes me feel uncomfortable. - Like being in school. And I just stay quiet and won't ask any questions or anything." These women enjoyed care at the center because they had their questions answered and were concerned that their dislike of groups would ruin this.

For three women, the dislike of groups went beyond uneasiness and approached anxiety. Within the larger category of 'don't like groups' was a subcategory of 'people anxiety.' These women expressed more extreme sensations when in groups or in public, and they had adjusted their lives to avoid group settings. One woman describes hearing about CenteringPregnancy in this way, "the first thought in my head was, 'Oh, God, I'm going to have to sit with all these other people!' . . . It's just - having *anybody* in my personal bubble makes me uncomfortable. I don't even like being in crowds . . . So that's why, I guess, it freaks me out."

The women who did not like groups, and especially those who expressed anxiety, mentioned how quickly they declined group care. “That was a really easy (decision) for me to make. I was like no.” These women ruled out Centering as a possibility as soon as they heard it was provided in a group setting. The women who expressed group anxiety often had risk factors for poor perinatal outcomes including extreme poverty, a large number of children in the home, and remote housing. These women had overcome many commonly cited barriers to obtain prenatal care (Phillippi, 2009), mentioning that the welcoming clinic atmosphere of the clinic made them feel good about getting prenatal care. It is doubtful they would have spent the time, effort, and anxiety to get care if it was only provided group setting.

“I don’t want to put everything out there with other women” – Fears of exposure in the group. Many women were concerned about physical and emotional exposure during group care; all but one member of this group generally enjoyed group settings but did not want to receive medical care in a group for reasons, including privacy, fear of emotional break-down, and distrust of disclosing information to strangers. Many of these women had poignant comments about medical care in groups, especially their need for privacy and a disdain for displaying or discussing their body.

These women did not feel group members would add value, only increase their discomfort.

> “We all know how we got in this situation. I mean we don’t need to have lunch, let’s just - let’s just, you know, make sure my blood pressure’s okay and. . . Let’s keep it real and go home. . .. I know you’re going through that and we’ll all pray together - you know. We’re all up here together, but I don’t want - I don’t *need*

you to hear my bathroom stories and my - I'm sick and . . . Like it doesn't matter - I'm happy for everybody else who's pregnant, but we're not going to stay in contact after the baby's born, and so see you later. "

"See, that (the belly check) would be very uncomfortable to me - if I had to do that in front of everybody else, because I don't like the way that my body looks, and then when you're pregnant you don't like it even worse - or you don't like it even more, you know. And then it's like you have to - pull your shirt up and all that other mess. That would be very uncomfortable in front of other people, I think. But if you got to do that privately and the rest have it later, that would be fine, I guess. (pause) As long as you didn't mind your business spread all over the place. . . . I'm a very private person. I don't like anybody in my business. My bedroom door stays shut constantly. You know, that - it's kind of like digging in your underwear drawer. You know, you're literally in somebody else's underwear."

Privacy was a prime concern for women who wanted one-to-one care. This extended from privacy concerning their medical progress to exposure of their concerns.

"I'm not big on sharing a lot of stuff with people I don't know. . . I'm not one of them, "Oh, yay, I'm pregnant. Let's get all (trails off). No, if you're not family or my doctor, I don't - I don't want - I don't <u>care</u> what you've got to say. I'm just - I'm not an all sharey person. . . I just like to keep it to the people that I trust."

Many women feared emotional disclosure or emotional breakdown within the group, “I mean what if you get emotional about something? You don’t want to be embarrassed in front of other people. That’s really, I think, the big thing.”

The strong aversion to sharing information may be related, in part, to the rural nature of the clinic. It would be rare in this small community to have a gathering of 8-12 women where no one knew each other. As one woman put it, “I don’t want to like put everything out there with other women and (pause). I mean I see them anyways.” The women’s privacy concerns will be explored more in Chapter 5.

“I’m scared to try something new” - No need for change from existing care.

There were three women who did not have strong feelings against Centering care but felt no reason to change from their existing care format. These women, when discussing facilitators of prenatal care, had very positive comments about the clinic. If these women were satisfied with their current model of care, there would have been little reason for them to switch to a new and unknown format of prenatal care. Many women had previously received care at other offices and not been pleased with how they were treated. To get care at the sample clinic they commuted past other clinics, a considerable expenditure of time and money.

One woman in this category admitted that she was, “scared to try something new,” this sentiment was confirmed by another participant. On discussion, they little knowledge of Centering. Since CenteringPregnancy has only been offered in this area for a few years, they would have little opportunity to talk with someone who had received this type of care. The lack of community knowledge about Centering can be addressed in many ways and will be explored further in Chapter 5.

"That way he can feel more comfortable" – Concerns about partner involvement in group care.

Two women commented that they did not participate in Centering because they wanted their partner to be involved.

> "Just because it's mostly all women. I know there's some men that go, but I don't think he would care all that much about it, you know what I mean. So we are just going to do regular and that way he can feel more comfortable and stuff."

Several other participants, who reasons for declining Centering fell in other categories, were concerned their privacy would be violated if men were at the group visit. Women were not clear how partners were integrated into the group and this uncertainty made them uneasy. The CenteringPregnancy information states that the inclusion of support people within the group is a decision to be made by individual groups (Centering Pregnancy and Parenting Association, 2007)

I would have enjoyed it, but it didn't work out – Barriers to Centering care.

Seven women expressed that they were not able to attend CenteringPregnancy due to a variety of barriers; key quotes can be found in Table 5 in Appendix C. Most, but not all, of these women stated that they would have used Centering care if it would have worked for their schedules. Timing was a major barrier for the women; the time of the Centering group made it difficult for these women to come to the group meeting. Transportation and childcare were additional barriers, but women discussed how they would have been able to overcome those barriers if the group time was changed.

Women stated the meeting time interfered with their or their partner's work schedule. Partners were mentioned often by this group of women as being needed for transportation and childcare. The women needed to coordinate with their partner as they had a single vehicle and/or toddler children. One woman, who had recently moved from an urban area, commented that public transportation would have allowed her to use CenteringPregnancy care as she would be able to ride a bus or call a cab instead of waiting for her partner to return from work.

The needs of existing children were often mentioned as a barrier to Centering care. Several women felt their young children would be disruptive during the two-hour long Centering visits, and this is confirmed both in conversations with midwives and in qualitative research on Centering care (Kennedy, et al., 2009). All but one of the women who mentioned existing children as a barrier had at least one child with them during the interview. Two women used their children's behavior during the interview as an example of why the child could not come to Centering group and stated that, if the group time were different, then their partners would be available for childcare. The time of the Centering groups at the sample center also interfered with toddler naptime and elementary school pick-up.

Women who mentioned barriers to care had a greater depth of knowledge about the content and format of Centering care when compared with women who declined for other reasons. They tried to make Centering care fit with their schedule but had been unable to reconcile their multiple responsibilities with the assigned group time. The midwives at the sample center and another nearby center reviewed preliminary findings and confirmed that while most women declined Centering care quickly, there was a subset of women who were interested but declined later. It is interesting to note that the barriers to Centering care closely mirror barriers to traditional prenatal care: transportation, childcare, and acceptable appointment times (Phillippi, 2009).

“I was never offered that” Did not know Centering was an option.

The sample clinic uses a chart coversheet to denote when women were offered Centering care, and if they accepted or declined Centering. A nurse-midwife screened charts to find appropriate candidates for the study. Only women whose charts were marked as ‘declined’ were offered participation in the study. Despite this screening process, there were five women who stated that Centering had not been offered to them. While these women did not met strict inclusion criteria as they had not declined group care, their input is valuable in describing a subset of women who did not have access to CenteringPregnancy care.

Two of the women had begun care at the clinic past 20 weeks of gestation. There was not an official clinic policy dictating if women could enter a Centering group after the initial visit, but introduction of new members can be difficult once groups are established since the learning content of the Centering visits does not repeat and the integration of new women into the relationship can be difficult (Centering Pregnancy and Parenting Association, 2007). It is possible the midwives marked the women as ‘declined’ since there was not a chart box for ‘not applicable.’

One woman stated she used Centering care with a previous pregnancy and loved it, but she entered care too late in this pregnancy; it was not clear from her statement if she, or the midwives, had decided this. Entering prenatal care in the second or third trimester can indicate the woman had trouble with access (Phillippi, 2009). Women who struggled with access to care often have other risk factors for preterm birth and low birth weight (Laditka, Laditka, Bennett, et al., 2005) and may benefit from CenteringPregnancy care.

One participant had switched to the sample clinic late in pregnancy to have a certain birth experience. This woman seemed very interested in the Centering model but stated it had never been offered to her. Two clients, who had received prenatal care at the Center since early in their pregnancy, did not remember being offered CenteringPregnancy but, on discussion, they had long drive times and only a superficial command of English. The midwives may not have offered Centering care for these reasons.

Facilitators of Prenatal Care Meaning Unit

The women's comments about facilitators were interesting as the current literature does not describe facilitators of prenatal care (Phillippi, 2009). Even though the sample clinic is set up to decrease commonly cited barriers to care with evening hours, play areas in the clinic rooms and bilingual providers, structural aspects of the clinic were minimally mentioned. Instead, women focused on insurance and compassionate care; other facilitators included appointment availability and having female providers. The help of family members was mentioned once and so was not included as a whole category. The categories of facilitators will be explored individually and key participate quotes can be found in Table 6.

Several interview questions generated comments about facilitators of care. The most direct question, “Is there anything else you want to tell me about your ability to get prenatal care?” also phrased as, “Is there anything midwives, doctors, or clinics need to know to help women get prenatal care?” generated the most rich data. “What helps you get prenatal care?” and “What do you want to get out of prenatal care?” also produced responses for analysis.

“Having insurance, that definitely helps a lot” - Insurance.

Insurance was frequently mentioned as a facilitator of prenatal care. Over half of participants mentioned insurance as their primary facilitator. All participants, except two, stated they had state and federal health insurance, though only a few had this insurance when they found out they were pregnant. All study participants mentioned directly or indirectly that they knew prior to their pregnancy of the availability of state/federal insurance for uninsured women. No one stated that they delayed seeking prenatal care because of cost concerns. A few women did not know they would qualify for state insurance at the time they entered prenatal care.

Six women commented on how easy it was to obtain the state insurance, this may be related to clinic staff assisting women in completing the Medicaid paperwork.

> “Actually for both this pregnancy and my last pregnancy, prenatal care was actually really easy to get. . . . I’m on [state Medicaid]. (I thought) the process would be a lot harder than I thought it was. It was actually really simple.”

Two participants had tried to receive Medicaid for prenatal care in other states and expressed that the process was slow, cumbersome, and bureaucratic. One woman was driving eight hours to get prenatal care at the center because she said it would take her more than a month to get Medicaid in her new state, and she could not book an appointment with a provider until she had a Medicaid number. This woman was worried about pregnancy complications and felt traveling to get prenatal care was her only option.

Women were very grateful for Medicaid coverage, stating it was much more generous than private insurance,

> ”I think most of it (problems getting prenatal care) is just a difficultly for the people who are in middle class with paying insurance and paying the deductible and not being allowed on state care because they’re making too much money.”
>
> “I couldn’t come to the doctor like the way I do if I had to have my own insurance. If I had to pay for my own insurance and have to pay for out-of-pocket, I couldn’t do it.”
>
> “It’s a $2000 deductible per year. That pretty much would have meant we paid for the entire prenatal care. And so we couldn’t afford it. Then, finally, my husband got laid off . . . so we were able to get on state insurance.”

These high deductibles represent 5% or more of the gross income of a family of four living at 200% of the federal poverty level (Department of Health and Human Services, 2011). Three women commented they were financially better off after losing their private health insurance since they were then eligible for Medicaid.

> “When I actually started with this pregnancy I had insurance through my work, but since I went part time I lost my insurance, but the transition between that and getting (state Medicaid). wasn’t too bad, and the center helped with that.. . . . Yeah, it made it easy. . .

> - And that shocked us because with my other insurance we were going to end up paying quite a bit, so it was almost kind of a blessing"

One working woman angrily stated that the generosity of Medicaid almost made working a financial disadvantage.

The qualitative finding that women believe easy access to Medicaid helped them get prenatal care is new within the literature on prenatal care access. While qualitative data linking Medicaid and prenatal care access is new, the women's comments are consistent with quantitative studies correlating increased Medicaid eligibility with higher rates of prenatal care utilization (Gavin, Adams, Manning, Raskind-Hood, & Urato, 2007; M.C. Lu, Lin, Prietto, & Garite, 2000; Piper, Mitchel, & Ray, 1994). Using critical realism as a lens, the quantitative data shows the correlation of factors but this qualitative data show the causal mechanisms behind the statistical association. This will be explored in more depth later in this chapter.

"My best thing about here is the compassion" - Compassionate care.

Twelve of the 29 women mentioned that friendly, personalized, or compassionate care made it easier for them to get prenatal care. Often, women began the discussion about compassionate care when mentioning what they wanted out of prenatal care and then stressed the need for personalized and unrushed care in the opened-ended request for suggestions at the end of the interview. Women were animated and expressive when discussing compassionate care and used vivid analogies and metaphors.

Many participants had received prenatal care in other locations at some point in this or previous pregnancies and were able to contrast compassionate treatment with less appealing care. Women described poor care as impersonal to outright dehumanizing using expressions such as a “cattle call,” “conveyor belt,” and “cold and calculated.” One woman admitted that impersonal care made her dread appointments so much that she often put off going.

Participants expressed that they would travel long distances for their prenatal care and felt disappointed with the length and content of visits. “In-out. Don’t spend no time with me and that was it." They stated they saw their care provider for 5 minutes, which was filled with measurements and “gadgets” but little conversation.

Women contrasted this dehumanizing care with compassionate, personalized, and unrushed care. One woman reported that what she wanted out of prenatal care was, “just to feel like I am human,” a seemingly simple request. Eight women mentioned that it was important to have their questions answered by the provider. “We go over every little detail, any questions that I have. I don’t feel rushed”

> “They’ll sit in there and they’ll talk to you about everything that you have questions about, and they’re not trying to rush off or leave or anything like that. They’ll just sit there and actually sit – have a conversation with you about care.”

Many expressed that listening was the way the provider could diagnosis complications of pregnancy. The women stated that an unrushed approach to care helped them feel cared for as a whole person beyond the medical health of the baby. In addition, visits and dialogue helped women develop trust with the provider.

While these findings are new in relation to access to prenatal care, they are consistent with the literature on women’s perceptions of and satisfaction with prenatal care (Novick, 2009a). Previous qualitative research on women’s perceptions of care found that women value individualized care (Sword, 2003), respectful providers (Bender, Harbour, Thorp, & Morris, 2001; Handler, Raube, Kelley, & Giachello, 1996; Tandon, Parillo, & Keefer, 2005), and unrushed visits (Bucher, Williams, Hayes, Morin, & Sylvia, 1997).

Participants in this study had a lot of suggestions for providers to facilitate the prenatal care process. Most suggestions involved friendly clinical environments and seeming interested in the clients more than making money or moving through the day. “Just take your time with them and just act like you care, even though you see tons of women.”

> “I want someone that actually cares and knows what I am goin’ through. . . not just doing their job. Actually cares about my health and the baby’s health and somebody that actually understands - Instead of just an appointment, a paycheck.”

The women in the study were emphatic in their statements about personalized care. Their vivid use of analogies suggests that the women had previously thought over the topic and were waiting for a discussion opportunity. The importance the participants placed on caring and personalized care underscores the need for care that goes beyond “gadgets” and measurements to include discussion and time for questions.

It is interesting that the participants, who had all declined Centering care, expressed very similar comments about what composed good prenatal care as women in a recent study of women who participated in CenteringPregnancy (Novick, et al., 2011). The similarity of the women’s comments suggests that satisfying, quality prenatal care has key components, no matter the format of care. This and other implications for clinicians, policy makers, and researchers will be explored further in Chapter 5.

“They was like ‘We’ll get you in’” -Appointment availability.

Five women stated that easy availability of appointments assisted them in getting prenatal care, but only two of these women listed it as major factor in their ability to access care. Women felt this clinic made it very easy to find acceptable appointment times. The availability of appointments related both to the first appointment and subsequent appointments both scheduled and urgent. One participant stated other practitioners would not see women until they were 10 weeks past their last period, but the center started care much sooner. Another woman was pleased to get an appointment the day she found out she was pregnant. One woman, who worked in an office, commented that the availability of after 5pm appointments were helpful so she did use vacation time.

“It is all women. I do like that” - Female providers.

Three women expressed that having all female care providers helped them get prenatal care; their quotes can be seen in Table 6 in Appendix C. The findings present an ethical dilemma to me as a researcher. The preference for female care providers is valid and most likely related to societal or personal casual mechanisms. The women should choose a care provider who makes them feel comfortable. However, their comments represent gender bias. The American College of Nurse-Midwives has been investigating and trying to eliminate gender bias in the profession of midwifery as it is a form of discrimination (American College of Nurse-Midwives, 2004). Since clinicians can do little to change their gender and preferential hiring of female nurse-midwives is illegal, this content area will not be explored in depth as it is minimally useful to clinicians and adminstrators.

Discussion of Findings

Many of the study findings are unique and not found within the published literature on CenteringPregnancy or access to prenatal care. This is the first known study to investigate the larger reasons women do not or cannot utilize this more effective prenatal care format. While evidence-based care is important, advance practice nurses and nurse-researchers need to listen for the voices of those not served by standard care as they are often society's most vulnerable and marginalized (J. M. Hall, Stevens, & Meleis, 1994). The current literature on CenteringPregnancy is uniformly positive with little mention of the large numbers of women who opt out of this model of care. This research begins a dialogue about adjusting CenteringPregnancy to be more acceptable to at-risk women and also acknowledges not all women will be best served by group prenatal care.

In looking at the whole of the findings, there is little that overlaps between the two research questions. However, the comments of the women in describing what they want in prenatal care and what helps them get prenatal care are valuable in providing a larger backdrop to why Centering would not meet their needs.

Participants had positive things to say about care at the sample clinic. They used the center as an example of what they wanted in prenatal care, unrushed visits with a provider who listens and values them as an individual. They felt appointment availability was excellent, and no one mentioned long wait times. In examining the literature on CenteringPregnancy, all studies were conducted at large institutions with high volumes of patients (see Table 3) and long wait times. In at least one trial, women were recruited into Centering with the promise that wait times would be minimal with group care (Ickovics, et al., 2007). Participants in this study were pleased with the current clinical environment and this may detract from their desire to change their format of care, especially if they did not see any personal benefit.

Participants, with a few exceptions, did not see any value to the other group members. In qualitative studies of Centering, one of most beneficial portions of the CenteringPregnancy group was sharing experiences to normalize the fears and worries of group members (Kennedy, et al., 2009). However, in this study, the subset of women who declined Centering because of the group format felt other women had little to offer them. Participants did not want to hear what other women had to say as they felt others' lives were too different from their own to provide valuable input.

From my vantage point I saw similarities, but the participants did not know other women were also struggling with money, housing, and family members. Many of these women were proud of how they kept their lives together through adversity but were reluctant to broadcast that they were sometimes destitute, homeless, or heartbroken. It is possible the women would never feel comfortable admitting their tenuous financial and social situations. In Novick's 2011 study of Centering care, even though participants were pleased with group care, they never discussed financial troubles, drug use, domestic violence, or homelessness despite their prevalence in the women's lives.

The comments about fear of emotional and physical exposure within the group were emotional and intense. Participants expressed disdain to revulsion at publically discussing bodily functions. The studies by Kennedy (2009) and Novick (Novick, et al., 2011) found women were reluctant to talk about physical concerns and symptoms when beginning Centering but discomfort decreased as they realized many women had similar physiologic symptoms.

Participants in this study were reluctant to lift up their shirt within the group space due to privacy concerns and overall dislike of their bodies. The women in the Kennedy (2009) and Novick (2011) studies also complained about abdominal exposure, suggesting a diversity of women have this concern. Since fundal height measurement in the group space is a barrier to utilization of group care, the need for abdominal assessment in the room with the group members should be investigated. Modification of this portion of Centering care may be possible without changing Centering's positive health outcomes.

Despite the majority of participants preferring individual care, there was a subset of women who were interested but were unable to utilize Centering care due to barriers. The most commonly mentioned barriers to Centering , transportation, childcare, and inaccessible appointment times, closely mirror the barriers listed in studies of access to traditional care (Phillippi, 2009). It is possible that the fixed appointment times and the two-hour group visits accentuate these barriers. The rural nature of the clinic and the low socio-economic status of many of the women may have complicated this juggle as many only had one car, little money for gas or childcare, and a long distance to drive for prenatal care.

Women in this study were overcoming great obstacles in their lives to obtain prenatal care. The literature on this topic nearly uniformly says that women are motivated to get care in order to have a healthy baby. With this in mind, it is interesting that the women rarely mentioned a healthy baby as what they wanted to get out of prenatal care. Instead, 12 of the participants specifically mentioned personalized care was important. Women across socio-economic groups discussed the value of personalized care suggesting that this need is not specific to vulnerable women. Comparing the women's comments about their need for compassionate care with their feelings on CenteringPregnancy provides another perspective. If a participant did not feel the group members were valuable, then their presence may distract from personalized care.

Combining the two meaning units also provides insight into reasons why the group-averse women declined care. Four women specifically mentioned that it was important to have all their questions answered during prenatal care, and all of those participants declined group care related to a preference for individual care or fears of exposure within the group setting. Women expressed that group anxiety might inhibit them from asking questions. Another women commented, "you'd be there forever trying to go over every single person's question," underscoring her belief that others would not have similar concerns or questions.

Women who did not see the value in group discussions likened group medical care to unpleasant group learning experiences such as high school, mandatory nutritional counseling, and drug rehabilitation. The fairly low educational levels of the participant population may signal that women who have previous negative classroom settings may be less likely to utilize Centering care. However, this study does not have a comparison group of Centering participants from the sample center. The demographic differences between women who chose CenteringPregnancy and those who opt for individual care needs further investigation.

The study findings on facilitators of prenatal care access are new to the literature because they survey the women directly with open-ended questions and focus on facilitators of care rather than barriers (Phillippi, 2009). This study provides introductory data on what helps women get care. The sample clinic had many programs in place to eliminate barriers to care and many women had been at previous clinics that were less accessible, however, structural aspects of the clinic were minimally mentioned by participants. Only one participant stated that evening hours were helpful, and only one out of four Latina women mentioned Spanish-speaking staff and providers, these findings seem in opposition to the current barrier-focused literature. In addition, gas prices were never spontaneously mentioned despite women commuting long distances to get care during a time of rapidly rising gas prices. This underscores that women's perceptions of access look beyond the barriers of prenatal care to what they get out of their time at the clinic.

Participants focused on two main facilitators, compassionate care and insurance. Comments about compassionate care were found in response to three interview questions and the women's use of rich analogies emphasized the importance of kind and respectful care. One participant even admitted when she was at another clinic she felt so badly treated that she would dread and even cancel prenatal visits. The importance of compassionate care is demonstrated in the literature on quality of prenatal care (Bender, et al., 2001; Gamble, Creedy, & Teakle, 2007; Gifford, 2001) and perceptions of prenatal care (Gamble, et al., 2007; Novick, et al., 2011), but is new to the literature addressing women's perceptions of access.

The majority of the studies on access to care are quantitative studies that demonstrate correlations between maternal demographic characteristics or answers to forced-choice questions with prenatal care utilization. Consistent with critical realism, these qualitative studies lack depth of insight into what causes these associations. This study is unique in demonstrating that impersonal prenatal care can cause poor utilization. It seems intuitive that when women are treated poorly by a clinic, they do not return for more services. However, many medical systems are not set up with these customer service principles in mind. This research bolsters the argument for kind and inviting healthcare.

Since the study was conducted in Appalachia, I explored the history, culture, and geography of the region in order to better understand the context of the women's lives. However, as I was conducting interviews, it became clear that many women had recently moved to the area. Only one participant had grown up in the area. Therefore, the comments of the women do not fully represent Appalachian women in a cultural sense. Appalachia is a geographic area with a heritage of individualism and reluctance to talk with outsiders (Jackson, 2006). Some authors state that Appalachia has a culture (Browning, et al., 2000) that is linked with health outcomes while others use the term place-based health disparity (Behringer, et al., 2007; Hartley, 2004). Since the area has experienced demographic shifts as people move in and out of the area in response to economic pressures (Appalachian Regional Commission, 2010; Jackson, 2006; U.S. Census Bureau, 2011) it might be more appropriate to think of women in Appalachia as population rather than a culture. While this study cannot provide insight into a cultural population, the findings do provide information about the women living in this rural, economically depressed area. Since women living in this area have poor perinatal outcomes (Bailey & Cole, 2009; Jesse, et al., 2003), it is important to hear their perspectives of care to develop interventions for this place-specific population.

When the findings of this study of Appalachian women are compared with the two qualitative studies of women in CenteringPregnancy care, participant comments and concerns are very similar across the three studies despite wide differences in sample populations and locations (Kennedy, et al., 2009; Novick, et al., 2011). This concordance suggests that many women have concerns about group medical care and, especially, privacy during group care. This needs further exploration through research with women from a variety of cultural and demographic groups.

The deeper causal reasons for women reluctance to enter group care this will be discussed further later in this chapter. More information on how socio-economic status, culture, and nationality affect women's concerns about group prenatal care would be beneficial in determining the underlying causal mechanism of the women's fear of exposure in the group setting. This will be explored further in the section on implications for future research.

Congruence With Critical Realism

The findings of the study dovetail well the larger theoretical framework of critical realism (See Figure 4 in Appendix C). Consistent with critical realism, there are multiple causal mechanisms influencing women's choice of prenatal care format. It is impossible to fully articulate all mechanisms as the women and the clinic exist in open and chaotic systems and causal mechanisms are often hidden, nebulous, and intertwined (Clark, et al., 2008; J. B. Connelly, 2007). However, the goal of critical realist research is to look toward deeper layers of understanding (Wilson & McCormack, 2006). In this push to explicate the causal mechanisms at work, researchers must be cautious in reaching beyond the findings and introducing researcher bias (Clark, et al., 2008). To avoid over extrapolation and bias, this study focuses on the how the structure of Centering care interacts with the woman (agency) to sculpt her decision to decline Centering care. Larger societal forces will be explored with the caveat of potential misinterpretation.

As discussed previously, critical realism outlines 3 strata, or layers of reality, the empirical, the actual, and the real. The divisions between these layers are not rigid and are subject to human error in interpretation (Collier, 1994). This error in interpretation is denoted by the concepts of transitive and intransitive understanding or being. People can only have a transitive understanding of situations or objects as they can only see portions of the whole, and their understanding is easily distorted by previous knowledge. The intransitive nature of objects is their objective and full reality, but this is difficult to comprehend.

Since this is study has only 29 participants drawn from one geographic location, it would be presumptive to draw definitive conclusions about reasons all women decline care. However, it is valuable to assess and categorize the women's responses according to critical realism and explore the casual mechanisms affecting women's decision to decline CenteringPregnancy care, especially as a springboard for further research. A visual representation of these interactions are presented in Figure 4 in Appendix C.

In this study, the decision to decline CenteringPregnancy care was the measurable experience in the empirical layer of reality. The women's comments in the interviews and the data from the demographic questionnaires are within the actual layer of reality as they elucidate the series of events leading up to the women declining CenteringPregnancy. It is this layer of knowledge that is most helpful to clinicians as they can use the information address the women's concerns about CenteringPregnancy can adapt CenteringPregnancy to be more acceptable to women. This is explored further in Chapter 5: Implications for Practice and Policy.

As discussed previously, the causal mechanisms that affected the women' thoughts and decisions about CenteringPregnancy are multi-factorial and nebulous and conclusions may include interpretation bias (Collier, 1994). With that caveat, several potential causal mechanisms underlie the study findings and are displayed in Figure 4. It is impossible to unequivocally assert that these mechanisms and beliefs influenced the women's decision-making; this layer of reality is difficult to empirically test (Collier, 1994), and probing questions about the women's underlying motivations and influences would not be well received by this population of women. However, after analysis several causal mechanisms seem likely.

The birth center is the only free-standing birth center in a greater than 50 miles radius and markets itself as having a high rate of normal, unmedicated births and a low rate of complications and cesarean sections. Less than one percent of births in the United States occur in birth centers (Centers for Disease Control and Prevention, 2010). The alternative mission of the birth center may have affected women's response to group care. While not included within the findings, study participants often commented on how their desire for a natural pregnancy and birth led them to seek care at this center. Two women were driving long distances across state lines and many others were driving past more convenient clinics in order to have birth center care. Since women had a specific antepartum and intrapartum experience in mind, they may have been more resistant to group care, but this needs further exploration with future research.

Privacy was a prime concern of the women in this study. Many women commented on their dislike and fear of exposing themselves, bodily and emotionally, in front of others. Ideas and beliefs about privacy originate from larger cultural and societal norms and vary greatly between cultures. However, many, if not all, cultures have taboos and strictures concerning which bodily functions and parts are perceived as not appropriate for public display or discussion (Osyerman & Lee, 2007). Women internalize these beliefs about the body and allow those beliefs to affect their decisions and interactions (Foucault, 1980; Osyerman & Lee, 2007). In this study the values of privacy influence the woman's feelings about group medical care, and act as a causal force in her decision to decline group care. Even deeper culture and societal values sculpt a society's beliefs about privacy, some of these forces include society's view of the body and sexuality. In addition the rural geography may affect a woman's desire for privacy. Previous studies have suggested that rural and Appalachian women may be less likely to disclose negative information about their health related to concerns that they may be judged by friends and neighbors (Browning, et al., 2000).

The value of confidentiality in the healthcare relationship has been promoted since Roman times and is contained within the Hippocratic Oath (Higgins, 1989). Historically, confidentiality was promoted to reassure patients to honest about their bodily ailments in an effort to correctly diagnose and treat. The value of confidentiality of healthcare is promoted in many forms of modern media, including children's and prime-time television. While confidentiality has been heavily promoted as beneficial, there is little societal recognition of the importance of social networks in health even though social network may exert just as much influence on health behavior as medical advice (Bogossian, 2007; Hatmaker, 1993; MacDorman & Singh, 1998; Thackeray, Neiger, Hanson, & McKenzie, 2008). The strong emphasis on confidentiality in healthcare stems, in part, from historical precedent (Higgins, 1989), but is also reinforced by the value of individualism in American culture.

Individualism may have caused women's dislike of groups and the lack of value placed on learning about others experiences or learning from other women.

Beyond cultural values, logistical concerns were prominent in why the women declined group care. With a few exceptions, the women surveyed were of lower socioeconomic status and were living at a subsistence level. Trailer homes without insulation, shared vehicles, cramped households with multiple families, and lack of help with children were concerns in the daily lives of the participants. Women were in a constant juggle to meet the needs of their children and family with limited resources. They discussed how flexibility in appointment times allowed them to best use their support systems and transportation to obtain prenatal care. However, many women were unwilling or unable to get to the Centering group meeting times. In this context, poverty is a causal mechanism for declining Centering. This finding is supported by the current literature which demonstrates that women of low socio-economic status struggle with access to prenatal care for a variety of reasons (Beckmann, et al., 2000; Patterson, et al., 1990; Phillippi, 2009). In the literature, there were many reports of how rigid clinic scheduling and lack of accommodations for children made it difficult for women to get prenatal care. While Centering has many advantages, flexibility is not one of them.

The rural location of the center was also a casual factor. People residing in rural areas have lower rates of health when compared with suburban locations (Eberhardt & Pamuk, 2004; Hartley, 2004; Strickland & Strickland, 1996). This health disparity exists across the lifespan with higher rates of infant mortality, accidental death, suicide, and chronic health conditions but lower rates of healthcare utilization (Hartley; Strickland & Strickland). The association of rural residence with lower perinatal outcomes is particularly clear in the literature (Bailey & Cole, 2009; Conrad, Hollenbach, Fullerton, & Feigelson, 1998; Epstein, et al., 2009; Laditka, Laditka, Bennett, et al., 2005; Omar & Schiffman, 2000). The deeper causal reasons that rural location affects health are still under investigation. New geographic technologies allow researchers to study how the density and spread populations and providers affect access to care as the spatial distribution of providers and patients affects access to care (A. G. Hall, Lemak, Steingraber, & Schaffer, 2008; Khan, 1992; McLafferty & Grady, 2005).

This study's participants, excluding outliers from other states, traveled an average of 25 minutes one way to get to the clinic. Travel was often on mountainous roads, inducing car sickness and vomiting for a participant's child. The large investment of time and money to travel to the clinic may make the women less open to new and unknown forms of care, especially if the women believed this form of care would be less personal and inviting.

Even though the purpose of critical realist research is to search for the deeper layers of causation and work to correct inequities (Wilson & McCormack, 2006), radical shifts in worldviews and elimination of societal ills are difficult for clinicians and nurses to accomplish. An example of the difficulty of changing deep causal mechanisms is found in the New Deal and New Society programs that were created to eliminate poverty, health disparities, and malnutrition. Despite decades of effort, these programs have failed to eliminate those ills, though they have done an excellent job of blunting or mitigating poverty's effects (Khanani, Elam, Hearn, Jones, & Maseru, 2010; Metallinos-Katsaras, Gorman, Wilde, & Kallio, 2011).

It is difficult to completely eliminate many of the reasons women decline CenteringPregnancy care. Clinicians are unable change underlying values within an individual, community or society. On the other hand, there is hope of mitigating the effects of some of causal factors, or at least adjusting Centering care to be more appropriate to women.

Beliefs about privacy, especially concerning issues of the body, can be addressed and circumvented on the clinical level. For instance, the clinician could assess fundal height and fetal heart tones in a private or walled-off space rather than in the room with other women. In addition, clinicians could provide more information about privacy and confidentiality to women who are considering Centering to allay concerns, rather than requiring women to shift their mindset and beliefs.

Poverty, in this low-resource setting, is difficult to eliminate, but the easy availability of Medicaid did overcome cost barriers for many of the women interviewed. This suggests that some federal and state programs, such as Medicaid, are effective in lessening the effects of poverty on perinatal outcomes and should continue to be supported. Additional underlying causal factors can be mitigated at the clinical level and will be discussed more in the implications chapter; these include the lack of childcare in the area and the women's reticence to try new and foreign models of care. It would be interesting to study if women in cultures that place a stronger value on group unity and identity would have higher rates of acceptance of the Centering model. This and other implications for future research will be explored further in Chapter 5.

The results of the study in no way refute critical realism, the goal of empirical falsification, and no modifications of the model are needed. Instead, this study contributes to the growing body of nursing literature supporting the use of critical realism as a basis for studies investigating the open and complex situations that create health care outcomes (Clark, et al., 2008; Wilson & McCormack, 2006). Critical realism was compatible with the content analysis method since the goal of content analysis is to understand complex processes to guide intervention or action (Elo & Kyngas, 2008). The compatibility of the framework and the method did not require the data to fit into predetermined and highly-segmented categories and allowed for many factors to simultaneously be affecting women's decision-making abilities.

Limitations of the Findings

The major limitation of the study is the small sample which is drawn from one geographic location. This community may be different from other communities due to the rural and mountainous geography, the low socio-economic status of residents, the lack of public transportation, the predominately Caucasian population, and the easy availability of state-funded prenatal care.

In addition, setting the study in a birth center influenced the patient population. The participants may share similar beliefs about prenatal care that are different than the average woman. For instance, large numbers of women mentioned their beliefs on natural birth, even when that was not an interview question; two participants stated they were commuting long distances for care so that they could give birth at the center with minimal medical intervention. The birth center setting of study might have contributed to the strong sentiments the women expressed about needing compassionate care. The women in the study seemed to have purposely sought out care at this center, often changing from other care providers who they felt were less compassionate or who did not agree with their beliefs about intrapartum care.

Consistent with critical realism, the entire context of the women's lives affected the study findings. Therefore, the results of this study may or may not apply to other populations, though the agreement of these findings with other qualitative studies suggest other women may have similar feelings and experiences. While the limitations of this study prohibit wholesale transferability of these findings, policy makers, clinicians, and researchers can use this information as it applies to their population of interest or as a springboard for further research.

Chapter 5

Implications for Practice and Policy

The results of the study have a wide range of implications. The profession of nursing works to improve health through multiple pathways, including direct patient care, promotion of effective models of healthcare, advocacy for patients at the policy level, and promotion of research (Buresh & Gordon, 2006; Fawcett, 2004). With this in mind, I will discuss the study's implications for clinical practice, policy, and research. The two meaning units within the study, CenteringPregnancy and facilitators of care, are discrete and will be explored separately as their practice, policy, and research implications are distinct. Critical realism helps to frame these implications as well. Clinicians and policy makers can work to alleviate or mitigate causal mechanisms that are superficial such as available appointment times, or deep such as poverty and individualism. Changes to deep causal mechanisms may not be possible at the clinical level but healthcare providers can still implement small-scale changes to improve care even if that cannot fix the underlying problem. These interventions will be highlighted throughout this chapter.

CenteringPregnancy

Implications for practice.

CenteringPregnancy has been shown to have superior outcomes to traditional prenatal care for women who chose group care (Ickovics, et al., 2007). However, in all the studies of Centering, the women were given a choice to participate in group care. Even in the trial where women were randomized to traditional or Centering care, the women were first given a choice to participate in the trial or have individual care

(Ickovics, et al.). While consent is a crucial component of ethical research especially for research involving pregnant women (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979), it produces inherent sample bias (Stommel & Wills, 2004). Centering may be a better model of care but perhaps only for women who are not adverse to group participation. This survey of women who opt-out of Centering care provides insight into the women who are not willing or able to participate in group models of care.

The information provided by participates has led me to two, almost discrepant, conclusions. The first is that clinicians and health systems need to respect the diversity of women and provide a variety of care formats and styles to meet women's wide-ranging needs. The second is that clinicians need to encourage more women to participate in Centering care using culturally appropriate education and information.

In addition, reimbursement models need to be changed to reflect that CenteringPregnancy is premium prenatal care, going beyond basic health measurement to include large amounts of preventative health teaching. Since CenteringPregnancy improves health outcomes and prevents preterm birth, it should be reimbursed at higher rates than traditional care, commensurate to the increase in the time spent with the provider and the required site licenses and supplies from the Centering Healthcare Institute. Higher reimbursement would make Centering more sustainable in rural or underserved populations where preterm birth prevention is needed most.

CenteringPregnancy is a proprietary format of care, and to perform official Centering care a clinic must buy supplies from the Centering Healthcare Institute and may ongoing fees for the site license. These costs impact clinics as well and contribute to the financial burden of running Centering groups. In addition, since CenteringPregnancy is highly operationalized with specific teaching content for each visit, it is difficult to adjust the format and content of Centering without specific permission from The Centering Healthcare Institute. This may represent a barrier to further development of this model.

One size does not fit all.

Many national organizations including the Centers for Disease Control (2007), the National Institute of Medicine (2011), and the United States Preventative Health Task Force (2010) agree that prenatal care is worthwhile for pregnant women when based on current evidence. To provide excellent care, clinicians must take into consideration the needs of the individual as well as information from well-designed clinical trials (Fulford, 2011). Group care may provide women with a great environment to learn health-related information (Phillippi, 2010), if the woman is open to learning in a group setting. This would explain the high rates of participant satisfaction in studies of Centering care (Ickovics, et al., 2007; C. Klima, et al., 2009; Novick, et al., 2011), since it is likely that mostly women who were interested in group care enrolled and continued in the study.

Women who dislike groups may feel disenfranchised if made to attend group care. For care to be accessible to women it must be personally acceptable to them (Phillippi, 2009). For many of the women interviewed, the group model of care was not acceptable, and for some women it was even frightening. Using critical realism as a guide, it is easy to understand how their might be deeper layers of reasons women decline, many of which cannot be modified on the clinical level. Group care would not meet the needs of these women, and if forced to receive the ‘best’ evidence-based prenatal care, they might not receive care at all.

Instead, clinicians should aim to provide a diversity of prenatal options to meet the needs of their clients. Many prenatal care access issues are customer service issues. Providing a variety of prenatal care options may assist women in accessing care that matches their needs.

Opening channels of access.

Many women did want to participate in Centering but struggled to access this format of care. Since CenteringPregnancy has such positive outcomes, clinicians should actively decrease barriers to Centering utilization, targeting both superficial barriers and the deeper societal barriers. In addition, the more women who opt for Centering care, the more financially feasible it is to maintain the group model (Mooney, et al., 2008).

The timing of the group meeting seemed to be the biggest impediment for participants as this influenced their ability to get transportation and childcare. In urban locations, it may be feasible to run several different groups at one time, increasing the probability that a woman can find a group that works for her busy schedule. In many rural locations, there are not enough pregnant women with similar due dates to make two groups financially viable. In low-volume settings, it may work to poll potential women on best times to meet. If that is not possible, clinicians should avoid times that are likely to conflict for women with small children, including school pick-up and drop-off times. Evening groups may be a possibility as many women who were unable to use Centering said they had to wait for the partner to get home from work for transportation or childcare.

Providing on-site childcare may also increase attendance at Centering. Several women commented that they could not attend as they had preschool children as they worried the children would be disruptive to the group. Anecdotal reports from midwives and perinatal educators suggest that young children are often disruptive to Centering groups, making it hard for the women to hear or focus (A. Graham, L. Blount & M. Solt, personal communication), and this has been confirmed in a qualitative study of Centering (Kennedy, et al., 2009). On-site childcare would help to alleviate this problem but would further increase the cost of providing Centering care. Judging from this sample, the clinic would need to provide the childcare at no charge to the women. It is unlikely that the women would pay for on-site childcare in order to come to Centering, though this may change if Centering becomes common and popular within the community.

It may take several years for Centering to gain popularity within the larger community of childbearing women. The reluctance to change to a new, unknown, and slightly scary format of prenatal care was expressed by many women interviewed. While could be a regional problem, as Appalachia is known for its distrust of new ideas put forth by ‘outsiders’ (Denham, et al., 2004), this fear of new models of healthcare may be common across geographic and cultural groups. Since many of the women’s comments about quality care match women’s descriptions of Centering care, there may be ways to decrease the barrier of the unknown and gently encourage women to try this ‘new fangled’ model of care.

The theory of diffusion of innovations would suggest that early adopters of this new model will encourage more reluctant women to try the model (E. M. Rodgers, 2003). Companies often target people to become early adopters by providing incentives for trying new products or services (2003). Incentives were used in many of the trials to encourage participation and may have increased the utilization of Centering care (Baldwin, 2006; Ickovics, et al., 2007). It may be useful to provide incentives for women to opt for the more effective model of care until it becomes locally known and acceptable. Incentives could come in the form of gas cards, gift cards, or baby items. While this would, temporarily, increase the cost of Centering, the cost may be off-set if more women utilize the model and making groups financially sustainable. In addition, costs savings would result if increased Centering utilization lowers the rate of preterm birth.

Just as companies enlist early adopters to market their products, companies use focus groups to tailor their message to their target population (Fisher & Schutta, 2003). Focus groups have also been used to develop health promotion strategies (Bender & Ewbank, 1994) and have been successfully used in Appalachia (Denham, et al., 2004). Despite the midwives providing verbal and written information about CenteringPregnancy multiple times in the first trimester, many women did not understand what CenteringPregnancy care involved. Many of these women said that they made their decision to decline Centering very quickly after finding out that it was in a group setting. Many admitted to tuning out when they heard the care was provided in groups as they had previous negative experiences with group learning and said group care reminded them of high school, rehab, or dismal WIC groups with crying children.

The handouts and information provided to the women are produced by the national organization for CenteringPregnancy and are designed to be place neutral and use terminology appropriate across the country. The nationally-produced glossy brochures may not resonant with this population of women as even the word ‘group’ had negative connotations. Focus groups might be able to adapt the standard educational materials to make them locally appropriate. It is interesting that in this age of social networking, the women were instantly opposed to group care. Perhaps more locally appropriate terms would help women feel at ease with the new format. Terms borrowed from social networking might encourage the women to see Centering as interactive and not didactic and to value sharing of experiences as a positive portion of Centering care, though this needs exploration with local women.

Focus groups would also be useful in determining what women would like to know about privacy within the group setting. The women in this study had many concerns about privacy both during their fundal height measurement and concerns that other women would know personal information about their lives. It is interesting that in Novick’s (2011) study of women of urban African American women receiving group prenatal care, many of the study participants expressed very similar privacy concerns.

Novick reported that all the feedback about the physical exam being conducted in the group space was negative, even though her group used a screen to shield women from immediate view. Concerns about privacy during the abdominal exam were also found in Kennedy’s (2009) study of group prenatal care in the military. The concordance of findings across three studies suggests that a variety of women have concerns about exposing their abdomen in the group space. Ideally, the location of the exam could be corrected in a manner appropriate for local populations. For instance, physical exams could be moved to a nearby room rather than occurring in the group space. Future research should target whether this small modification would have repercussions for the whole CenteringPregnancy approach.

The participants in this study also expressed a fear of emotional exposure within the group setting and were reluctant to receive group care as did not want to "put everything out there with other women." Many women commented they did not feel comfortable discussing personal matters with people they did not know. It is possible that this fear of disclosure of private information is related to the rural nature of the clinic or the participant population. However, Novick and colleagues'(2011) study found that urban women in Centering were also reluctant to discuss emotionally difficult topics and her participants mentioned how they were uncertain if they could trust the other women with their personal information. The agreement of the comments from urban and rural women suggests that privacy concerns inhibit women from various populations.

The literature provided to the patients about CenteringPregnancy does not address privacy within the group. All of the participants in this study had declined Centering for some reason, many of them citing privacy concerns. Perhaps the literature and education provided to women about Centering care should include information about how privacy, both physical and emotional is handled within the group setting. In addition, it may be possible for Centering to be modified slightly to allow for discussion of emotionally difficult topics. Novick and colleagues noted that the women in Centering never discussed topics such as substance abuse, violence, and homelessness despite the prevalence of these issues in their lives. Strategies could be developed to bring up these topics to discuss without women having to disclose that they have personally experienced these problems. However, a more anonymous format may not succeed in helping women feel less isolated in their experiences, a major positive attribute found in qualitative studies of Centering care (Kennedy, et al., 2009; Novick, et al., 2011).

Modifying the literature provided to patients about CenteringPregnancy is a fairly small change to the overall model, but more substantial changes may be needed for some vulnerable women. Participants who entered care late were unable to use Centering care. Women who enter care late are more likely to have risk factors for poor perinatal outcomes (Healy et al., 2006; Laditka, Laditka, Mastanduno, Lauria, & Foster, 2005), making access to Centering care even more important. It may be possible to modify Centering for women who enter care late to still provide care that increases healthy literacy and encourages social relationships.

CenteringPregnancy is a proprietary form of prenatal care and technically can only be provided with the format and content stipulated in the CenteringPregnancy manual (Centering Pregnancy and Parenting Association, 2007). However, it may be possible to adapt the best practices of Centering into a compressed format for women who enter prenatal care late; these adapted models could extend past 36 weeks to allow more time for health teaching and assessment. Although the benefits in preterm birth prevention may not be as apparent for these women as they will not receive as much content before their pregnancy is at term, the women may still receive enough benefit to decrease the risk of low birth weight, and they may have the higher rates of breast-feeding and health literacy seen in some trials of Centering care (Baldwin, 2006; Ickovics, et al., 2007; Ickovics, et al., 2003).

The findings of this study will be very useful to clinicians as they offer and explain CenteringPregnancy care. Possible changes and modifications range from minor and superficial to interventions designed to target the deeper mechanisms that cause women to decline CenteringPregnancy care.

Policy implications.

Reimbursement.

Reimbursement patterns do not reflect the greater provider time and teaching in the Centering model of care. There is not a unique billing code for CenteringPregnancy care and clinics must bill Centering care at the same rate as traditional care (Centering Healthcare Institute, 2011a). If Centering groups can be kept nearly full with 8-12 women in each group, clinics can make the same amount on Centering care as providing individual care to the women (Mooney, et al., 2008). However, if group numbers fall below that level, clinics lose money, which is especially difficult for clinics that are already struggling for solvency.

Increasing reimbursement rates for CenteringPregnancy care would allow smaller groups to be financially sustainable and would encourage clinics to offer this model of care. Although the insurers cost for prenatal care would increase, their total outlay of funds would decrease as they would have to pay for the medical care of fewer preterm or low birth weight infants. The increase in reimbursement rates can be used to offset the increased time the provider spends in providing group care or pay for on-site childcare or incentives for women who opt into the group model.

Centering holds promise as a new format of prenatal care. It is an effective, if not superior, form of prenatal care for low-risk women who are not adverse to group settings. This new format of care should be made accessible to as many women as possible and clinics should be adequately compensated for providing this new model of care. Centering could be made more accessible through adjusting group times and providing locally appropriate teaching about the model, including information about privacy.

The current literature demonstrates that CenteringPregnancy care is superior to traditional care but only for women who opt for group care. Women who dislike groups were unlikely to participate in the research trials and may have been responsible for the fairly high rates of attrition in the studies.

Women in this study expressed a dislike of groups and especially of group medical care. A few participants had outright anxiety about being in a group setting. For these women, Centering is not likely to be a beneficial model. To require these women to have group care would likely disenfranchise them and decrease the likelihood they would receive adequate care. The decision to enter Centering care should be left up to the woman to increase her desire and ability to access needed care.

Implications for future research in CenteringPregnancy.

Since this study is the first to explore the perceptions of women who declined Centering and participating women came from a fairly narrow geographic area, the study should be repeated in other areas and in more diverse populations. Ideally, future studies could compare the responses of rural and urban woman and women of varying cultural and racial backgrounds.

As CenteringPregnancy gains momentum within the United States, it would be interesting to see how the model performs abroad, especially in cultures where groups are more valued. In many of these ‘collectivist’ cultures, there are strong cultural norms toward group identity and cohesion (Osyerman & Lee, 2007). Collectivist cultures can be found in Asia, the Middle East, and some portions of Africa and South America (2007).

CenteringPregnancy may resonant well with women in these cultures as receiving information and teaching within the group setting has value and women might be more likely to implement health information received in this form (Jafari, Eftekhar, Fotouhi, Mohammad, & Hantoushzadeh, 2010; Uskul & Oyserman, 2010). However, some of these cultures often have strong hierarchical structures and frown upon discussion (Osyerman & Lee, 2007), a foundation of CenteringPregnancy care. In addition, group alliance is often tied to family, ethnic, or racial group. It might be culturally taboo for women to engage in conversation with women from other familial or cultural groups (2007). The success of CenteringPregnancy in a variety of patient populations needs further research.

However, even within cultures and geographic areas, women have different personal preferences. It would also be interesting to compare the groups of women who opt for Centering and those who decline or drop out in any geographic or cultural group. It is possible that the women who chose group care, or trials of group care, are in some ways different from women who prefer individualized care. Women who do not use CenteringPregnancy care may dislike groups, have greater levels of anxiety, lower availability of transportation, or more children in the home during the day. Many of these items are not measured by common demographic questionnaires, yet are valuable in understanding women's perceptions of access to varying types of prenatal care.

Clinicians should not force women to utilize group models of care. However, they should continue to facilitate access to the most effective models of care available. Many women had barriers to using Centering care which could be addressed through careful planning of groups or modification of Centering care. Centering groups could be modified to allow women who enter care late to still participate in Centering groups. Research should investigate if moving the physical exam to another location adversely affects the outcomes of centering groups. In addition, research should address whether truncated or modified versions of Centering still provide superior perinatal outcomes with high maternal satisfaction.

CenteringPregnancy seems to have a 'special ingredient' that significantly decreases the rate of preterm birth and this needs further investigation. The physiology of preterm labor and low birth weight involve a multitude of intrinsic and extrinsic factors (Blackburn, 2007; Jesse, et al., 2009). It is difficult to tell how Centering impacts the rate of preterm birth. Is it that facilitated dialogue is a more effective education technique (Phillippi, 2010)? Is it that the social aspect of care normalizes otherwise fearful experiences and therefore reduces cortisol release? Future research should investigate what aspects of Centering are crucial to positive outcomes. If the 'magic ingredient' in Centering can be identified then it can be added into other models of prenatal care to help women who cannot or will not participate in Centering.

Facilitators

The findings of this study enhance the current literature on access to prenatal care. The current literature has a strong focus on barriers to care with little information on what works for women. Therefore, it is difficult for those making decisions about the provision of healthcare to know what is effective in increasing women's perceptions of access. Since there is much discussion of the prevalence of barriers within the literature, it could be assumed that elimination of these barriers would be the most beneficial to women. The sample clinic was already using strategies to decrease many common barriers to prenatal care including bilingual receptionists and clinicians, evening hours, flexible appointment times, and child-friendly waiting and exam rooms (Phillippi, 2009). However, those factors were minimally mentioned by the women, even those who had previously sought care at other clinics. Instead, two main facilitators were mentioned in the vast majority of interviews: insurance and compassionate care.

Implications for practice.

Women commented frequently that compassionate, personalized attention helped them to get prenatal care. While the literature has a heavy focus on barriers to care (Phillippi, 2009), the women in this study seemed to have a focus on the care itself. Many women stated that what helped them get care was the care itself: knowing that when they arrived at the clinic, they would be warmly received, the clinicians would assess their physical and emotional needs, and they would have their questions answered.

Their advice to clinicians, “You need to be more personal,” and “just act like you care, even though you see tons of women,” has such simple truth. Yet the upbeat, personalized clinical environment requested by the women seems like a modern enigma.

Clinic sustainability rests on billing for patient visits (Slager, 2004). In the rush to see more patients and bill more visits, clinics often use a variety of staff so the clinician can be more productive. The increase in the number of staff and the volume of patients can make it hard to create a personalized atmosphere for the women.

However, clinics can make small and large changes to personalize the clinical environment. The literature on quality of prenatal care (Bender, et al., 2001; Korst et al., 2005; Wheatley, Kelley, Peacock, & Delgado, 2008) and maternal perceptions of and satisfaction with prenatal care (Handler, et al., 1996; Hildingsson, Waldenstrom, & Radestad, 2002; Leithner et al., 2006; Novick, 2009b) overlap this topic and may assist clinicians in targeting interventions to improve the personal feel of prenatal care. Suggestions from this study include creating a clinical environment where women feel respected and valued as an individual, including health teaching and talking in addition to assessment in visits, and making time to answer questions. Creation of a more inviting atmosphere may assist women who are reluctant to enter medical settings to obtain prenatal care (Phillippi & Roman, unpublished manuscript).

Policy implications.

Insurance was the most common facilitator mentioned by the interviewed women. Nearly all women commented that having insurance or being able to get Medicaid during their pregnancy made it easier to get care. It is reassuring that most women were easily able to obtain Medicaid and many women knew this would be the case prior to starting care. Early prenatal care is associated with lower rates of maternal morbidity and mortality and can also affect neonatal outcomes as well (Creanga et al., 2011; L. M. Williams et al., 2003).

Both short-term and long-term maternal health are improved through early prenatal care in many ways. Early entry into prenatal care is associated with lower rates of maternal mortality from ectopic pregnancy (Creanga, et al., 2011). Since the rate of ectopic pregnancy has increased significantly in the past 15 years, it is important to make sure women can obtain care early (Trabert, Holt, Yu, Van Den Eeden, & Scholes, 2011). Prenatal care can also assist mothers in learning about appropriate weight gain and diagnosis of pre-existing but unknown type II diabetes. Appropriate early counseling and detection has been shown to impact maternal health even after birth (Conway & Kutinova, 2006).

Even though prenatal care was originally begun for the protection of the mother (Alexander & Kotelchuck, 2001), there has been a proliferation of diagnostic tests and preventative measures focused on improving fetal health. Early prenatal care can decrease the rate of birth defects in several ways. First, mothers can be encouraged to begin folic acid supplementation, which has been shown to decrease the rate of neural tube defects (Cragan et al., 1995). In addition, many women are exposed to chemicals through their work, recreational drug use, or prescription drug use (L. M. Williams, et al., 2003). During a typical first prenatal care visit the woman is counseled on toxin avoidance and all potentially teratogenic medications are changed to more suitable treatments until embryogenesis is complete (American Academy of Pediatrics & American College of Obstetricians and Gynecologists, 2002). Since all fetal systems are completely formed by the 12^{th} week of pregnancy (Moore & Persaud, 2008), it is important for women to enter care before errors in fetal development occur.

There are also many tests that can be performed on the fetus if the mother enters prenatal care in the first or early second trimester. In 2007, the American College of Obstetricians and Gynecologists stated that all pregnant women, regardless of age or risk status, should be given the option of screening their fetus for chromosomal and developmental problems including open neural tube defects such as spina bifida, and a wide range of chromosomal abnormalities including Down Syndrome. These non-invasive tests performed by maternal blood draw and ultrasound can detect up to 90% of the most common chromosomal defects but can only be performed early in pregnancy. Early diagnosis allows women more choices if an abnormality is found, including abortion (American Academy of Obstetricians & Gynecologists, 2007). The non-invasive screening tests are not available later in gestation, and abortion is severely restricted past the first trimester and early second trimester in many states (Chervenak & McCullough, 2011).

Women who enter care early have more options about parenting children with long-term health issues than women who enter care late. Fuchs (2005) has found there is a growing disparity in the number of children with Down syndrome born to affluent mothers versus low socioeconomic mothers, due in large part to the difference in early utilization of prenatal care and fetal screening. Mothers who enter after the first trimester do not have the option of abortion and give birth to more abnormal fetuses, making health disparities persist across the lifespan (Fuchs & Peipert; Kotelchuck, 2003).

Prenatal care may impact other life-long health disparities as well. Research indicates that babies born to mothers with poor glucose control in pregnancy are more likely to have diabetes later in life (Damm, 2009). The intrauterine environment causes complex changes at the molecular level that selectively activate or inactivate genes (Fernandez-Morera, Rodriguez-Rodero, Menendez-Torre, & Fraga, 2010). The study of this interaction of environment and genes, a field known as epigenetics, is one of the research priorities of the National Institutes of Health (NIH Common Fund, 2011), suggesting that even more research will be forthcoming on the value of prenatal care in promoting optimal lifetime health. The value of prenatal care in the immediate and long term health of the mother and baby is substantial and demonstrates that clinicians, health systems, and policy-makers should promote prenatal care access.

The women in this study stated that having insurance helped them get the care they needed. Almost all women in this study had state-provided Medicaid. The state's Medicaid program operates under a Section 1115 waiver from the Centers for Medicare and Medicaid Services (CMS) that allows it to use federal Medicaid funds in a managed care system as a demonstration project and has generous eligibility requirements for resident pregnant women (State of Tennessee, 2011).

Many women stated that state Medicaid provided even better coverage than private insurance because of the lack of deductibles and co-payments. Several women commented that women with insurance often had a harder time paying for medical care when compared with women on Medicaid. One woman was not able to afford to pay for a pregnancy when she had private insurance but when her husband lost his job she was able to qualify for Medicaid making it financially possible.

Almost all women knew they were able to qualify for Medicaid sponsored care prior to receiving their first prenatal visit; no woman from the study living within the state delayed seeing care as they were unaware Medicaid was available. One woman was driving across several hours for care as she had moved during pregnancy and it was several weeks wait until she could receive Medicaid in her new state. Another woman commented on how hard it had been to qualify for Medicaid in a previous state, which had made her initial entry into care exasperating and difficult.

The healthcare industry is moving toward a focus on outcomes (Institute of Medicine, 2001). The women in this study unequivocally stated that the ability to get Medicaid easily and quickly facilitated their entry into prenatal care. This is excellent news amid the cacophony of criticisms and critiques of our current system. Based on this data, state policies should continue to support the provision of Medicaid payment for prenatal care.

In 1994, California cut funding for all non-emergency services to non-citizens, and all prenatal care services for illegal immigrants were discontinued. Lu and colleagues studied the resulting outcomes and costs and found that for every dollar spent on prenatal care, the state saved $3.33 on postnatal care (2000). Eliminating state-funded prenatal care caused a 4 fold increase in low birth-weight infants and a 7-fold increase in premature birth (2000). If the long-term healthcare costs of prematurity and low birth weight were included in the cost analysis, one dollar of prenatal care saved $4.63 in later healthcare costs (2000).

Prenatal care is a cost saver for states. This study shows that providing easy access to Medicare facilitates prenatal care and supports the conclusion that even in constrained budgets, Medicaid funding should be maintained for prenatal care. Funding of state programs in the sample state relies heavily on sales tax due to the lack of any income tax on earned income. During this and any economic downturn, sales decrease and revenue for the state decreases as well. In lean times, state legislators decrease funding for a variety of programs. However prenatal care is an expenditure that leads to cost savings (M.C. Lu, et al., 2000) and if these programs are cut the state will end up paying for much more costly care.

There are major upcoming policy decisions about healthcare looming in the sample state. The state's Section 1115 Medicaid waiver expires in June of 2013 (State of Tennessee, 2011), many policy decisions will be made about program funding. Perinatal health experts, including nurses, advanced practice nurses, and physicians should work to educate their legislators about the value of easily available prenatal care finding prior to this date, or they risk losing a benefit of real value to women and infants of their state.

Support for the budding middle range theory of Motivation-Ease.

Middle-range theories operationalize broad, or grand, theories into more manageable and applicable components to assist researchers and clinicians (Smith, 2008). Critical realism was an ideal framework for study of prenatal care access but may be too cumbersome for average clinicians to apply in their work. The middle-range theory of

Motivation-Ease was developed retroductively from practice and the literature, and designed to be consistent with critical realism. A thorough description of this new middle-range theory can be found in the Phillippi & Roman unpublished manuscript in Appendix A.

The findings of this study unequivocally support this new theory, and the manuscript will be revised to include this data prior to resubmission. While this study was not originally designed to test the Motivation-Ease theory, the participant comments entirely support the new theory (Table 8). Women consistently mentioned components of the motivation-ease theory, such as reduction of hassles, compassionate care, appointment availability, and making space for children at prenatal visits, helped them get care. In addition, they discussed how personalized, compassionate, and easy prenatal care increased their motivation for further care, another component of the theory.

If this study's data is used to test the middle-range theory of motivation-ease using empirical falsification, it would fail to refute the theory. However, a few modifications of the theory may be needed in light of the study data. It would be ideal to test this model in more diverse populations, including with affluent women. While those are long-term research goals, the data provided by this study bolster the validity of Motivation-Ease as a useful, practice-level theory for healthcare professionals and policy makers to use in conceptualizing healthcare access and operationalizing clinic-level interventions.

Implications for future research on facilitators of prenatal care access.

There is little research on how changes in aspects of the clinic affect women's perception of access into care (Phillippi, 2009). There are a few case reports and one review and synthesis of the literature in this area (Feder, 2011; Leveno, McIntire, Bloom, Sibley, & Anderson, 2009; M. C. Lu, Kotelchuck, Hogan, Johnson, & Reyes, 2010). While these sources do provide clinical guidance on how to structure clinics to increase the number of women who receive adequate prenatal care according to quantitative indicators, there is not information provided on how the women perceived the changes. Clinicians need concrete information on what practices positively impact women's access to and utilization of prenatal care. Future research should explore women's perceptions of clinics and test if changes to make the clinic more welcoming and personalized would increase women's satisfaction with care, perceptions of access, or utilization of care. These ideas are explored further in the middle-range theory of motivation-ease (Phillippi & Roman, unpublished manuscript).

Many clinics have had excellent success in improving women's access to care. Innovative, effective, and culturally-appropriate care models have been developed in many locations across the country and the globe. However, the diffusion of these innovations has been slow (M. C. Lu, et al., 2010). Often, clinicians serving vulnerable populations are excellent at providing clinical care but may not have the knowledge or resources to write for publication or present at conferences. New online networking technologies may help to link clinicians, even those who cannot travel or live in rural areas (Phillippi & Buxton, 2010). These new technologies can allow clinicians to informally discuss effective strategies promoting diffusion of ideas and innovation.

The rise of the Doctor of Nursing Practice (DNP) may also improve the dissemination of innovative care models as more Advanced Practice Nurses will have higher levels of knowledge about how to move practice data into research. In fact, much of the proposed future research could be carried out by DNP-level students or clinicians. This research is ideal for the DNP-level clinician for several reasons including the already operationalized structure and the systems and practice-focused approach to improve quality and outcomes (American Association of Colleges of Nursing, 2006).

Conclusion

It is important for clinicians, especially APRNs, to understand women's perspectives on access to prenatal care. Clinicians can use this information to refine health care systems and delivery to better meet women's needs. This study contributes to the knowledge on prenatal care access through revealing Appalachian women's reasons for declining group prenatal care. Clinicians can use this information to adjust their marketing of group care and decrease barriers to Centering participation. In addition, this study confirms the need for a variety of approaches to prenatal care to ensure that it meets the needs of a diversity of women.

The results of this study will, hopefully, begin a discussion on how healthcare providers and policies can facilitate women's access into care. Study participants consistently and overwhelming emphasized that two things assisted them in getting prenatal care: easy access to maternity insurance, especially Medicaid, and compassionate care from their providers. These results should be shared with policy makers and legislators to encourage continued funding of Medicaid even when faced with budget constraints.

Participants' poignant contrasts of dehumanizing and affirming prenatal care have value for health care providers. The findings of this study validate the need for clinical environments that feel unrushed and personal even in a medical community that has an increasing focus on computer charting, technology, and efficiency to remain sustainable. The results of this study support the middle-range theory of motivation-ease as they reinforce the idea that clinical factors can facilitate access into prenatal care, even for women who might not have been very motivated to receive prenatal care originally. In addition to validating the theory of motivation-ease, the results of this study are further confirmation that critical realism is an appropriate theoretical framework for nursing research.

The care provided to the most vulnerable is often used as a measure of the health of the whole nation (World Health Organization, 2011) as those with lowest status are served last. Many global health organizations use maternal and infant mortality rates as sentinel measures of population health. Unfortunately, the United States ranks poorly in these areas (World Health Organization, 2011). Open access to diverse formats of high-quality, compassionate care can help alleviate these health disparities and increase the health of the nation, both immediately and into the future.

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Appendices

Appendix A: Unpublished Manuscripts

Phillippi & Hall Manuscript

A Concept Clarification of Prenatal Care Access

Abstract

An operational definition of access to prenatal care is produced using the Norris concept clarification method. The analysis was founded on the frameworks of feminism and critical realism. Access to prenatal care is defined as the self-reported ability of a woman to enter and maintain care for herself and fetus during pregnancy. Access has societal, maternal, structural, and medical components that interact on micro and macro levels to form a woman's path to prenatal care. Maternal motivation is the antecedent to access and utilization is the consequence of motivation and access. Access is a concept related to, but distinct from, the concepts of healthcare access, utilization, transition, and liminality.

Keywords

Concept analysis, reproductive health, midwifery, feminism, critical realism, health services accessibility

Introduction

The World Health Organization (WHO) and the Centers for Disease Control (CDC) have called for an increase in access to early and comprehensive prenatal care as a means of reducing maternal and infant mortality (Centers for Disease Control and Prevention, 2007; World Health Organization, 2007). The United Nations has made the reduction of child mortality and the improvement of maternal health two of the ten

Millennium Goals, emphasizing their crucial importance to the health of societies. Healthy People 2020 provides the continuing goal, “increase the proportion of women who receive early and adequate prenatal care” (Department of Health and Human Services, 2009).

While major health organizations agree women need access to prenatal services, there is not a clear definition of this concept within the nursing or medical literature. There are several ways researchers have studied prenatal care access including the use of utilization data (Adams, Gavin, & Benedict, 2005; Kogan, et al., 1998) and interview questions (Daniels, Noe, & Mayberry, 2006; B. I. Mikhail, 1999; Patterson, Freese, & Goldenberg, 1990). These approaches yield useful information, but a clear definition would strengthen and categorize current and future research so clinicians and researchers can test interventions to improve access and meet national and international goals for maternal-child health.   The purpose of this article is to report on a critical, feminist concept clarification of the term access to prenatal care, through a selective literature review and using the Norris method of concept clarification.

The Norris Method of Concept Clarification

Since access to prenatal care is a concept that has wide use without a precise definition, a concept clarification is an appropriate means to develop an operational definition for research (Lackey, 2000; Meleis, 2007). Meleis states concept clarification is useful in defining an existing concept’s boundaries and relationships. The purpose of this article is to produce an operational definition to guide future theory development and research on access to prenatal care. There are five main steps in the Norris method of concept clarification: identification of the concept within nursing and other disciplines, grouping of phenomena, development of operational definitions, construction of a models or exemplars, and formulation of hypotheses for experimentation (Meleis, 2007; C. M. Norris, 1982b). Two theoretical frameworks are used to gain an understanding of the larger issues surrounding prenatal care access.

Theoretical Frameworks

Feminism

A major tenet of feminism is that society is inherently gendered and perspectives of women have been influenced by the larger societal framework, which is pervasively androcentric (Aranda, 2006; Bunting & Campbell, 1990; Cook, 2009). Pregnancy is a gendered state and intersects with societal beliefs about gender and power as families must commit the resources to obtain care (Currie & Wiesenburg, 2003). Currie and Wiesenburg emphasized the need to "conceptualize gender relations as a system of power, operating through women's bodies as they are positioned in both the material and ideological realms of social life" (p. 896).

With these tenets in mind, feminism is an important framework for the examination of prenatal care access (Barnes, 1999; Goldberg, Ryan, & Sawchyn, 2009). Feminism also emphasizes the value of women's voices in exploration of topics reflecting gender (Barnes, 1999; Bunting & Campbell, 1990; Rodgers, 2005). Consistent with this framework, a woman's report of her ability to access meaningful and appropriate care is assumed to be superior to less direct methods of assessment.

Critical Realism

Critical realism focuses on the dynamic interplay between a person or people and social and institutional structures (Cruickshank, 2003). In this theory, multiple complex levels of the empirical world interact to form reality (Wilson & McCormack, 2006). Critical realism allows the researcher to acknowledge the dualism of individual independence and deep-rooted societal constraints (Clark, Lissel, & Davis, 2008; Connelly, 2007). Beliefs about power, gender, sexuality, knowledge, and the body stem from societal constructs (Foucault, 1980). These beliefs are internalized and simultaneously enacted through individuals and their actions (Cruickshank, 2003). Realism also allows for both biological and social components of a phenomenon to be considered (Wainwright, 1997; S. J. Williams, 2003). For instance, pregnancy is a biological state as well as a social construct bridging sexuality and motherhood (Currie & Wiesenburg, 2003).

A key component of critical realism is a critique of the existing societal framework and a search for causal factors that may be difficult to observe (Wilson & McCormack, 2006). Critical realism dovetails with a feminist framework in calling for scrutiny of societal structures to expose inequalities and is especially useful in examining complex nursing and public health issues that have multiple layers including genetics, environment and culture (Clark, et al., 2008; Connelly, 2007).

The frameworks of critical realism and feminism are complementary in many ways as both theories seek to expose larger societal influences on people and behaviors.

There is tension between the two frameworks regarding whether women can have similar or unifying experiences, and we address these limitations within our assumptions (Cook, 2009).

Assumptions

It is assumed that prenatal care has a positive impact on the health of the mother and baby. Several large health organizations, including the WHO and the CDC, have advised prenatal care for pregnant women and large trials have demonstrated a benefit to this care (Centers for Disease Control and Prevention, 2007; Di Mario, Gori, & Spettoli, 2005; Villar, Carroli, Khan-Neelofur, Piaggio, & Gulmezoglu, 2001).

A second assumption, in keeping with critical realism, is that differing societal, cultural, and health systems affect the experience of access (Clark, et al., 2008; Connelly, 2007). Since health systems differ dramatically across the globe, only studies surveying women within the US were included in the review. Conceptual literature on women's health access from other disciplines and countries was incorporated when they were relevant to US women (Chamberlain, et al., 2007; Currie & Wiesenburg, 2003; Puentes-Markides, 1992; Sutherns, 2004; Sword, 1999).

Although this conceptual study is limited to the US, it is not assumed that the US population is homogeneous. Multiple diverse micro-cultures exist throughout cities, states, and regions (Goldberg, et al., 2009; Sperstad & Werner, 2005). In addition, payment for prenatal care services differs dramatically among states, which affects access (Miller, 2006). Data from subpopulations will be highlighted insofar as they contribute to the clarification process.

Clarification of the Concept of Prenatal Care Access

Access to prenatal care is a concept used within a variety of health care-related disciplines. Several steps ensured a comprehensive literature review. Common dictionary definitions of access provided an introduction. Literature on generic access to health care and women's access to care was obtained to understand access in progressive levels of specificity.

The PubMed and CINAHL databases were comprehensively searched from 1990 to October 2007. Studies that did not query women on their experiences did not meet the woman-centered criteria for a feminist review. Nineteen survey-based articles were used for conceptual analysis to determine their use of the terms "access to prenatal care" and "prenatal care access." Eight sources were from nursing journals (Beckmann, Buford, & Witt, 2000; Bloom, et al., 2004; Fuller & Gallagher, 1999; Leatherman, Blackburn, & Davidhizar, 1990; B. I. Mikhail, 1999; Moore, Ketner, Walsh, & Wagoner, 2004; Patterson, et al., 1990; Shaffer, 2002). Two were from medical journals (Braveman, Marchi, Egerter, Pearl, & Neuhaus, 2000; Roberts, et al., 1998), and nine were from health-related journals (Brady, Visscher, Feder, & Burns, 2003; Daniels, et al., 2006; Johnson, et al., 2003; Kalmuss & Fennelly, 1990; Lia-Hoagberg, et al., 1990; Milligan, et al., 2002; Rogers & Schiff, 1996; Torres, 2005; Tossounian, Schoendorf, & Kiely, 1997). There was a proliferation of studied on access to prenatal care in the 1990s, with lessening frequency of publications since 2000.

In addition, six pertinent conceptual articles were selected, two from nursing journals (T. L. Norris & Aiken, 2006; Sword, 1999), three from health-related journals (Currie & Wiesenburg, 2003; Penchansky & Thomas, 1981; Puentes-Markides, 1992), and one from a medical journal (Chamberlain, et al., 2007). Since the conceptual literature on access listed components of quality and satisfaction, relevant studies on prenatal care satisfaction were analyzed (Gamble, Creedy, & Teakle, 2007; Leithner, et al., 2006; Omar & Schiffman, 1995; Proctor, 1998; L. F. Smith, 1999; Tandon, Parillo, & Keefer, 2005). Literature on format and content of prenatal care was also examined for relevant themes (Gregory, Johnson, Johnson, & Entman, 2006; Ickovics, et al., 2007; Walker, McCully, & Vest, 2001).

Prenatal care access shares characteristics with health care access, personal health care access, women's access to care, and utilization of care; however, it has some key differences. A purpose of the concept clarification process is to identify the concept within nursing and related disciplines and differentiate it from similar concepts (Meleis, 2007; C. M. Norris, 1982a).

Prenatal Care

In a discussion of access to prenatal care, an understanding of prenatal care, also known as antenatal care, is essential. The WHO states:

> The aim of antenatal care is to assist women to remain healthy, finding and correcting adverse conditions when present and thus aid the health of the unborn. Antenatal care should also provide guidance to the woman and her partner or family, to help them in their transition to parenthood (Di Mario, et al., 2005, p. 7).

While wide-reaching in its goal, this definition is consistent with the feminist viewpoint as it places the woman as the central focus of care, while acknowledging the importance of her social and familial network. Prenatal care varies greatly in format, content, location, and provider (Gregory, et al., 2006; Ickovics, et al., 2007; Walker, et al., 2001). In this review, we focus primarily on the woman's experience of access and will highlight the structural aspects of prenatal care as relevant.

Access

Classic works on access to healthcare include those of Donabedian (1972) who states that access has geographic characteristics, such as distance to a provider, and socio-organizational characteristics, which encompasses all other aspects of the patient-provider interface. Aday and Andersen (1974) build on the work of Donabedian and differentiate three main components of healthcare access including health policy, characteristics of the health delivery system, and characteristics of the population at risk. For many years, Andersen and Aday validated and refined their behavioral framework through research on healthcare access in a narrow variety of patient populations but not including pregnant women (Aday & Andersen, 1981; R. Andersen & Aday, 1978; R. Andersen, Aday, & Chen, 1986; R. M. Andersen, McCutcheon, Aday, Chiu, & Bell, 1983).

Petchansky and Thomas's (1981) article from within the health literature states that access has attributes of "availability, accessibility, accommodation, affordability, and acceptability" and defines the concept of access as "the 'fit' between the characteristics of providers and health services and characteristics and expectations of clients" (p. 139).

T.L. Norris and Aiken (2006) slightly redefine the attributes of access to be “availability, eligibility, amenability, and compatibility” (p. 61).

Khan and Bwardwaj (Khan & Bhardwaj, 1994) build and hybridize the models of Donabedian (1972), Andersen & Aday (1974), and Petchansky and Thomas (1981) to create a complex and comprehensive model of healthcare access complete with mathematical models for quantification. Puentes-Markides (1992) states that women have a different experiences of access to health care than men and outlines three components of women’s health care access:

> The structure of the health system, the behavior of the health professionals, and the characteristics of the population seeking care. These three elements are in turn influenced in varying degrees by other factors at the more macro-social level which are related to the political orientation of the government, macroeconomic policies and health policies or the status assigned to women in society (p. 621).

It is interesting to note that while these models have been validated and refined within the literature on access to healthcare, they have not been used in the study of prenatal care access. Only one study of prenatal care access employed any of these middle-range theories (Fullerton, Nelson, Shannon, & Bader, 2004). Smith (2008) states that middle-range theories must be functionally adequate, which includes applicability to a range of environments and populations and published examples of use of the theory in research and practice. Theories can only be shown to be valid through application and testing (Fawcett, 1978).

However, prior to application, researchers must ensure that theories are congruent with the topic of study (McEwen, 2007; McQuiston & Campbell, 1997). The lack of prenatal care access research employing these otherwise well-tested theories is evidence of their lack of validity in this clinical realm. Prenatal care has many attributes that differentiate it when compared to healthcare and these unique attributes may mean that theories developed for healthcare access are not compatible with the study of prenatal care access.

Prenatal Care Access as Unique from Health Care Access

Different cultures have varying constructs of pregnancy on the wellness to illness continuum that affect a woman's perception of her need for care (Lemon, 2006; Rogers & Schiff, 1996; Shaffer, 2002; Torres, 2005). For instance, Hispanic, Amish, Mennonite, and Native American cultures often view prenatal care as superfluous or even with suspicion or fear (Lemon, 2006; Rogers & Schiff, 1996; Shaffer, 2002; Torres, 2005). The pregnancy experiences of close friends and family members can also influence a woman's opinion of the need for prenatal care (Braveman, et al., 2000; Leatherman, et al., 1990). Women may not be motivated to access the prenatal care system if they feel it unnecessary or they fear medical procedures.

Gender-based societal expectations of personal worth or value affect prenatal care access. Women may be less likely to use family resources on themselves because of low feelings of self-worth or self-esteem stemming from their internalization of society's views or their own prioritization of other family needs above their own (Chamberlain, et al., 2007; Puentes-Markides, 1992; Sword, 1999). It is interesting that while women's reports of barriers to prenatal care show many similarities across racial, ethnic, and geographic groups, researchers in one study surveying middle-class women found different barriers than the studies surveying lower-income women (Roberts, et al., 1998). This suggests women of different socio-economic levels have different experiences of access, consistent with a critical realist perspective (Cruickshank, 2003).

The differences between socioeconomic groups also suggest that economics is a powerful influence on access. The compounding influence of economics, societal gender expectations, and power divisions may help to explain why women do not utilize available prenatal care; thus, prenatal care access has more than structural components (Adams, et al., 2005; Frisbie, Echevarria, & Hummer, 2001; Sheiner, et al., 2001; Stout, 1997).

Prenatal care further differs from basic models of health care access in that prenatal care is often stigmatized by its close proximity to sexuality and motherhood. To need prenatal care is to disclose non-virginal status, which may ostracize some women (Price & Hawkins, 2007). Pregnant teen women report fear of pregnancy disclosure as a barrier, even if they desire to obtain care (Braveman, et al., 2000; Leatherman, et al., 1990; Teagle & Brindis, 1998).

Other facets of unplanned pregnancy also act as a barrier for women of all ages. In many studies of access, women cited unplanned pregnancies and depression about the pregnancy as reasons for not accessing care (Daniels, et al., 2006; Johnson, et al., 2003; Leatherman, et al., 1990; Lia-Hoagberg, et al., 1990; Teagle & Brindis, 1998). Access to prenatal care may be related to the nursing concept of intendedness of pregnancy

(Klerman, 2000). Women may avoid prenatal care until they are ready to begin their transition into motherhood (Gaff-Smith, 2004; Nelson, 2003). Pregnancy as a sociological, psychological and physiological transition state makes the nursing concepts of transition and liminality relevant here (Gaudion & Homeyard, 2008; Hall, Stevens, & Meleis, 1994; Nelson, 2003). Pregnancy can be thought of as a liminal state in which experiences deviate from the normal everyday life circumstances of the pre-pregnancy period, and a woman is neither childless nor a mother.

Finally, drug-using women may fear legal consequences if they enter prenatal care (Chavin, 1992). Drug-using women often delay entry into prenatal care, citing fear of loss of custody of their child at birth, retribution from health care providers, or even imprisonment (Brady, et al., 2003; Chavin, 1992; Kalmuss & Fennelly, 1990; Milligan, et al., 2002). This unique two-in-one status differentiates pregnancy from other health and illness states.

Utilization of Prenatal Care

Authors frequently pair utilization with prenatal care access. In some studies, utilization is used interchangeably, or synonymously, with access (Adams, et al., 2005; Barnet, Duggan, & Devoe, 2003; Edgerly, Y., Druzin, Kiernan, & Daniels, 2007; Healy, et al., 2006; McLafferty & Grady, 2004, 2005). As mentioned previously, there are many influences on women's utilization of prenatal care other than their ability to access care, including depression, drug use, unwanted pregnancy, and the belief that prenatal care is unnecessary (Brady, et al., 2003; Johnson, et al., 2003; Milligan, et al., 2002; Roberts, et al., 1998; Rogers & Schiff, 1996; Shaffer, 2002). In these cases, women have access but are not motivated or chose not to utilize care.

Puentes-Markides (1992) finds that utilization is also influenced by demand. If demand exceeds the supply of appointments, utilization data is unaffected despite a decrease in the ability of women to access care. This is supported by a study of middle–class women who had an average of six weeks wait for an initial prenatal visit (Roberts, et al., 1998).

While utilization of prenatal care may be proof of access, it is not a complete measure of women's ability to enter care as it only measures women who actually enter care systems. A lack of utilization may signal a lack of access. However, it may signal that maternal factors, including low motivation, block access. Utilization data does not provide a picture of the reasons why women do not enter and continue care. For instance, utilization data show that women with many previous children are less likely to utilize prenatal care but does not reveal why this is the case (L. Williams, et al., 2006). Without this information, clinics and providers are unable to meet women's needs. Maternal reports of access reveal many reasons why multiparous women fail to utilize services: clinics are not child-friendly (Bloom, et al., 2004; Lia-Hoagberg, et al., 1990; B. I. Mikhail, 1999; Roberts, et al., 1998), transportation is more difficult to obtain with children (Kalmuss & Fennelly, 1990), and women with previous healthy pregnancies may believe care is unnecessary (Braveman, et al., 2000; Rogers & Schiff, 1996; Shaffer, 2002). Each of these barriers requires different intervention strategies for researchers and clinicians.

A feminist viewpoint values the woman's perspective of access as more accurate and inclusive than the measuring of prenatal visits. Utilization data may provide the information about who is accessing care but does not state why they are unable to enter and maintain care. Thus, the concept of utilization should not be equated with the term access to care.

Systematize Observations and Descriptions of Phenomenon

After the concept of access was differentiated from similar concepts, the next step in a Norris concept clarification is systemization of the phenomenon and its descriptions (Lackey, 2000). This is achieved through immersion in the literature. After the initial literature review, applicable sources were re-read and the number of times articles used the word "access" and the context surrounding the word were highlighted. Meleis (2007) encourages the researcher using the Norris method to examine "triggers" and "results" to define the edges of the phenomenon (Meleis, 2007, p. 167). Through this process, the antecedents and consequences of access became apparent.

The antecedent for access to prenatal care is maternal motivation. Women must desire prenatal care prior to beginning the access process. In studies that surveyed women who never entered prenatal care or who entered prenatal care late, women consistently reported that they were not motivated to seek care, for a variety of reasons.

Many women reported that they were unaware of their pregnancy until late in gestation (Braveman, et al., 2000; Lia-Hoagberg, et al., 1990; Rogers & Schiff, 1996). Women also reported they were not motivated to seek prenatal care as they were considering abortion (Johnson, et al., 2003; Leatherman, et al., 1990; Patterson, et al., 1990). Some women, especially adolescent women, were not motivated to seek care because they were hiding the pregnancy (Braveman, et al., 2000; Leatherman, et al., 1990; Teagle & Brindis, 1998). Women also reported that fear of medical procedures decreased their motivation to enter care (Fuller & Gallagher, 1999; B. I. Mikhail, 1999; Rogers & Schiff, 1996; Teagle & Brindis, 1998). In many studies women reported they were not motivated to seek care because they did not feel prenatal care was necessary due to cultural beliefs or the fact of having previous healthy pregnancies (Braveman, et al., 2000; Coverston, Franklin, & Patterson, 2004; Leatherman, et al., 1990; Patterson, et al., 1990; Rogers & Schiff, 1996; Shaffer, 2002).

All other barriers reported by women in the literature could be linked to the clinic in some way and therefore are not really antecedents to access but structural components of the access process. Some authors characterize transportation problems, lack of childcare, and difficulty affording prenatal care as maternal barriers (B. Mikhail, 2000; Patterson, et al., 1990). However, these barriers relate to how the clinic interfaces with the woman and, therefore, are not true antecedents to access but instead structural or organizational characteristics of the specific clinic.

A potential consequence of access is utilization, as discussed previously. Utilization has been called realized access or ‘proof’ of access within the literature (Aday & Andersen, 1974; Donabedian, 1972; Khan & Bhardwaj, 1994; Leatherman, et al., 1990). If the pathway of access is clear *and* the mother is motivated to seek care, then utilization is a consequence.

Operational Definition

The goal of the Norris concept clarification method is the formation of an operational definition which can be used to categorize current research and formulate future research questions (Lackey, 2000; C. M. Norris, 1982b). Our definition is based on the use of the term within the current literature, is woman-centered, and allows for wide variation based on personal and local factors, consistent with our feminist and critical realist frameworks.

Prenatal care access is the self-reported ability of a woman to enter and maintain care for herself and fetus during pregnancy. Access has societal, maternal, structural and medical components. Maternal motivation is the antecedent to access and utilization is the consequence of motivation and access.

Model Cases

Model cases demonstrate the concept within its context (Meleis, 2007) and are used here to express how the facets of access are present or absent in women's paths to prenatal care.

Exemplar Case

"A".is a recent immigrant and is happy to be pregnant with her second child. A friend tells her she should get prenatal care soon and recommends a local birth center with interpreters and a Spanish speaking provider. She calls the clinic and is signed up for an orientation visit that week to talk with a provider and an appointment a week later to have a physical exam and blood work. On the phone the receptionist lets her know she is welcome to bring her husband and son to the visits. They have daytime or evening appointments so her husband can drive her after work and are able to set up a payment plan for the portions of care not covered by Medicaid. Throughout her pregnancy, she is able to get prenatal care in her own language while her son plays with toys that are available at the clinic.

In this case, A. is motivated to obtain prenatal care (the antecedent to care), her family and friends are supportive of prenatal care (societal components). A. is able to obtain transportation to the clinic and has the time to receive care (structural and maternal components). The clinic facilitates her entry and maintenance of care through the use of Spanish-speaking and culturally sensitive staff and providers, child-friendly facilities, payment plans and the wide range of appointment times (structural and medical components).

Borderline Case

When B. becomes pregnant with her fourth child she feels overwhelmed and depressed. The father of the baby is not supportive of the pregnancy and is unable to financially contribute. She had healthy pregnancies before and believes this pregnancy will be the same. Two months after finding out she was pregnant, B calls the clinic and gets an appointment in three weeks when a neighbor can watch her kids for a fee. She is able to take her kids to some appointments, but the bus fare is expensive, and it is difficult to control the children at the bus connection. She enjoys her provider and the clinic, but it is hard for her to get to each appointment and occasionally she has to miss visits, especially when the appointments are every week.

B’s case. does not demonstrate all the attributes of access. In the beginning of her pregnancy, she lacks motivation, the antecedent to access. When she is motivated to obtain care, she struggles with finding financial and emotional support for care (societal components) and transportation and childcare needs (maternal components). She is not able to obtain all the prenatal care she needs. Furthermore, she is not able to avail herself and her family of all that the clinic has to offer

Contrary Case

C. is a 15 year old who lives with her family in a rural area. After missing her period for several months, she knows she is pregnant but is afraid to tell her parents. She is ambivalent about having a baby. When she begins to look visibly pregnant at 7 months, her mother brings her to a clinic. At her first prenatal visit, she has an hour wait, a painful blood draw, her first pelvic exam, and is given a lecture on the need for prenatal care. She leaves the clinic feeling scared and humiliated. When the family car breaks down and her phone is disconnected, she does not go to or make any further appointments.

C. does not have access to prenatal care. She lacks motivation in the beginning of her pregnancy (the antecedent to access) because of ambivalence and fear of disclosing the pregnancy to her parents. She has many personal barriers to care including fear, transportation, and conflicting emotions (maternal components). The clinic acts as a barrier through its lack of public transportation, long wait time, and painful medical procedures (structural components). The provider also acts as a barrier through inappropriate attitude (medical component).

Formulation of Hypothesis for Experimentation

The goal of the Norris concept analysis is to produce a clear definition for future research and patient care (C. M. Norris, 1982a). Our previously stated definition provides a template for future research exploring the societal, maternal, structural, and medical components of access from the woman's perspective. Future research can target the barriers and facilitators of care that women encounter in each of these areas. In addition to those questions, the literature review revealed several important deficits in the current research.

How does women's access to prenatal care change over the course of gestation?

No study interviewed women multiple times over the course of prenatal care to determine if women's perceptions of access change. Information on how women perceive their ability to get care throughout gestation could be used to adjust care routines to better suit women's needs. For instance, women could be given an orientation visit if fear of medical procedures is an impediment to beginning prenatal care. Pelvic examination can be delayed until later in pregnancy without a decrease in safety (Wright, et al., 2007). If the frequency of visits is a problem for women, the number of prenatal visits can be reduced if the content of visits is increased (Alexander & Kotelchuck, 2001; Walker, et al., 2001).

How do different models of prenatal care affect a woman's access to prenatal care?

There are currently several models of prenatal care. Most prenatal care is provided in a private room with one provider and one patient. Centering Pregnancy is a form of group prenatal care that has less than ten minutes of individualized care per visit, but has women interacting in a facilitated group for almost two hours during each meeting (Rising, Kennedy, & Klima, 2004). Visit times are known months in advance. This model has been shown to have superior outcomes to traditional prenatal care in reducing preterm birth rates and increasing maternal knowledge (Ickovics, et al., 2007). However, researcher have not studies how this new format affects women's perceptions of access. The static appointment times and long visits may decrease access, but the inclusion of discussion may increase women's satisfaction and belief that prenatal care is worthwhile (Massey, Rising, & Ickovics, 2006).

How does the provider type influence access to care?

There are many types of prenatal care providers, including physicians, physicians' assistants, nurse-midwives and other nurse practitioners. These types of providers have different educational backgrounds, philosophies, and clinical settings that may impact women's perceptions of care (Hatem, Sandall, Devane, Soltani, & Gates, 2008; Novick, 2009; Rodriguez & Kotarba, 2009). Future research should study how provider type influences women's ability to enter and maintain care.

Conclusion

Access to prenatal care is a distinct concept separate from access to health care, women's access to health care, and utilization of prenatal care. Access is sensitive to macro and micro factors and needs further exploration to assist in providing open pathways to effective perinatal care. Since utilization is not sensitive to societal, maternal, and clinical barriers, future research should focus on women's report of access. Qualitative methods provide more information about women's experience and allow for novel findings. Prenatal care access is related to the nursing concepts of liminality and transition. A distinct definition of prenatal care access provides a foundation for further research, sharpening a previously vague but often-used concept.

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Motivation and Ease in Access to Prenatal Care: A Practice-Based Theoretical Approach

Abstract

Despite the availability of services, accessing healthcare remains a problem even in the United States and other developed countries. Prenatal care has the potential to improve perinatal outcomes and decrease health disparities, yet many women struggle with access to care, even in systems with universal health insurance. Current theoretical frameworks addressing access to prenatal care focus on barriers to care, although such barriers are minimally malleable in point-of-care clinical practice. We propose a theoretical model that condenses the access process into two components: motivation and ease. Maternal motivation is an internal driver, a major component of why women choose to begin prenatal care. Ease represents access components within the clinical domain that facilitate easy and open access into beneficial care for their population. This model redirects the focus to *the interface of* the clinic and the clients, thereby encouraging interventions at the practice level that may assist women in entering and maintaining prenatal care.

Keywords

Health Services Accessibility, Prenatal Care, Motivation, Access, Theory-Oriented Practice, Theory Development

Motivation and Ease in Access to Prenatal Care: A Practice-Based Theoretical Approach

The interaction of person, environment, and health are key components of the nursing profession.[1] Nurses facilitate such interactions and have leadership roles in forming new models of care that promote an individual's access to healthcare. Improving maternal and child health comprise two of the ten Millennium Goals, which have been endorsed by the World Health Organization (WHO) and 189 nations, including the United States (US).[2] The provision of open channels of access into health services also is a priority in the draft version of the Healthy People 2020[3] and included in the Safe Motherhood Initiative of the Centers for Disease Control and Prevention (CDC).[4]

The Problem of Access

Prenatal and perinatal care in the US is an area where health disparities are clearly evident; marginalized racial groups have appreciably higher rates of pregnancy-related complications than their white counterparts. In 2003, the maternal death rate was 3.8 times higher for black women than for white, non-Hispanic women (racial categories are consistent with birth certificate data).[4] The rate of preterm births for infants born to black mothers is 1.5 times greater than for infants born to white mothers, and the rate of very low birth weight (<1,500 gm or 3 lb 4 oz) for black infants is 3 times greater than for white, non-Hispanic infants.[5] Rates of prenatal care utilization for these vulnerable women are also less.[5] Women of black or Hispanic origin are twice as likely to have late or inadequate care than white, non-Hispanic women.[5] While the impact of race and ethnicity on health outcomes has been heavily studied (in part related to the availability of these data from the infant's birth certificate), women marginalized by age, class, or sexual orientation continue to experience problems accessing beneficial care during pregnancy.[6-10] This problem is not limited to the US. Recent European studies confirmed that marginality of culture, unplanned pregnancy, and low level of education are major factors in inadequate access to care even when health insurance is universal.[11]

Open access to prenatal care is a particular priority as adequate and effective prenatal care can improve the health of both the woman and child.[4] The goal of prenatal care is to provide a woman and fetus with health assessments and information to improve maternal and neonatal outcomes,[12] but if access to prenatal care is **not** equally accessible to women with differing resources (including internal resources) outcomes will continue to contribute to current and future health disparities.[13-14] For instance, early prenatal care can reduce maternal deaths related to ectopic pregnancy.[15] Prenatal care can also decrease long-term infant morbidity and mortality through the mother's use of folic acid supplements to prevent neural tube defects,[16] and screening for fetal abnormalities.[13] Women from disadvantaged or marginalized socioeconomic, cultural, and racial groups often struggle to access prenatal care and may not be able to avail themselves of these services,[5] resulting in higher rates of pregnancy-related complications.[17-18]

Many strategies, some theory-based, have been used to address disparities in access and outcomes; however, their success has been less than desired. Access is a local phenomenon, and barriers and facilitators may come in many forms, including geography or culture. Current models do not adequately provide a *framework for action that is useful at the practice level.* In this paper, we propose a new middle-range theory, derived retroductively from practice and the current literature,[19] that is useful to real world clinicians to open pathways of access to prenatal care.

Definitions

Prenatal Care

Prenatal care comes in many forms and formats. The content of care may vary from simple health measurement to intensive health teaching and ancillary services.[20] We will use the WHO statement of prenatal, also known as antenatal care, that is inclusive of all these formats. The WHO states, “The aim of antenatal care is to assist women to remain healthy, to find and correct adverse conditions when present and thus to aid the health of the unborn.”[12](p.7)

Access to Prenatal Care

Access to prenatal care is the self-reported ability of a woman to obtain care for herself and fetus during pregnancy. Access has societal, maternal, structural, and medical components, as consistent with a critical realist paradigm. Maternal motivation is a precursor to access and utilization is the consequence of motivation and access. The changing frequency and nature of prenatal care encounters across gestation may also affect a woman’s ability and willingness to obtain prenatal care.[21]

Utilization of Prenatal Care

Utilization of prenatal care is defined as a woman receiving prenatal care. Khan and Bhardwaj define utilization as “realized access.”[22] Access represents a woman’s potential to enter care and utilization is the quantifiable “proof”[23] of access. Utilization is frequently used as a marker for access in research studies, although a lack of utilization could signal lack of access or a lack of maternal motivation for care.

Critical Review of the Literature

Several theoretical models have been used to conceptualize and frame health services research regarding access and particularly prenatal care access. In this brief critical review of pertinent literature on access to care, we focus on those conceptual models that have been tested in the study of prenatal care access, particularly their clinical usefulness. Most of these models did not arise from the discipline of nursing. Nevertheless, their concepts fall within the domain of nursing, including person, health, and environment, and have been used by nurse researchers.[1]

The Health Belief Model (HBM) is the most frequently utilized theoretical framework in studies of prenatal care access.[8-9, 23-26] This classic model has a strong emphasis on cognition, it is belief –based, and little attention is given to the socioemotional aspects of early pregnancy. Pregnancy is more than a biological state; it involves role transition, relationship changes and, often, acceptance of the birth of a child.[27] The HBM also includes concepts of “perceived susceptibility to the disease” and “perceived seriousness of the disease,”[28] which may not be applicable to pregnant women, as pregnancy is not an illness and, in developed countries, is rarely associated with death or disability. These non- disease facets of pregnancy are not easily incorporated into the HBM framework but are important components of women’s entrance into care.[6-7, 23] In addition, the HBM has a strong focus on the individual, which limits its applicability at the clinical level.

Pender's Health Promotion Model (HPM) also has been used as a theoretical framework in studies exploring access to prenatal care.[29-30] The HPM adapts previous theories of illness prevention, including the HBM, into a theory about behaviors surrounding health and wellness promotion.[31] While this is more accurate in describing women's paths to prenatal care by including barriers to care, it remains a predominately cognitive model focused on individual internal factors and does not provide concrete action steps for those working to open pathways to care at the clinical level.

Khan and Bhardwaj's model of access[22] has been successfully used in the study of prenatal care access.[32] As a concrete, specific model of access, it is derived from previous models of health care access, including the work of Andersen and Aday, Pechansky and Thomas, and Donabedian. Khan and Bhardwaj's model is comprehensive of almost all potential barriers to access, and it gives equal weight to the characteristics of the healthcare system as well as the user. This model is useful in detailing and operationalizing barriers to care, but it is cumbersome in its complexity. It crosses from macro to micro level components that contribute to access from a strong social health policy influence to detailed characteristics of the healthcare system and the user, but the comprehensive and mathematical nature of the model renders it difficult for providers to translate to formulate clinic-level interventions. Only one research team has used this model in prenatal care research.[32]

There are other more abstract, grander frameworks for inquiry that intersect the study of prenatal care access, taking into account the macro-to micro aspects of health disparities and difference of access. These frameworks incorporate societal influences on biology, including the cumulative effects such as allostatic load,[33] life-course perspectives,[34]and ecosocial models.[35] Despite the cross-cutting nature of these frameworks, and the importance such multilevel frameworks , these models have little salience at the clinical, point-of-care level, and offer little guidance for perinatal care providers who wish to improve access.[36] A focus on the clinical components of access is more applicable to practicing nurses. Additionally a focus on ease and facility at the point of care mitigates the sometimes judgmental, or blame-based, approach to access,[37] that can increase negativity in both care providers and potential care recipients, leading to an even greater distancing effect.

The interface of the practice/practitioners and the pregnant woman has been a neglected aspect of theory, despite its everyday reality. Theory must be comprehensible and resonate with real life to be useful at the practice level. Middle range theories, which by definition are less abstract and easily operationalized than grand theories, are useful at practice and interventional levels.[38]

Motivation and Ease

To be motivated means *to be moved* to do something; to be energized or activated toward an end is considered motivated.[39] Motivation is defined consistent with Leatherman, Blackburn, and Davidhizar's definition, the "willingness (of a woman) to seek care."[23](p.257) Motivation to access care encompasses a woman's cultural and personal beliefs regarding prenatal care, her acceptance of the pregnancy, and her own internal drives. Motivation for seeking care can be affected by her family, friends, and immediate social network and larger public health information,[21] but it remains an internal process. Research on women's perceptions of prenatal care access, which has been reviewed in a previous publication,[21] supports that motivation for care can be strong and a predominant force for seeking care or an impediment. Women have varying levels of motivation concerning their need for prenatal care for personal and cultural reasons.[21] Women are often motivated to obtain prenatal care by a desire to have a healthy baby.[21] On the other hand, many women state that they were not motivated to seek care as they were considering abortion or did not believe prenatal care was necessary.[21]

There are ways that a nation's healthcare system can contribute to a woman's motivation for care. For instance, media campaigns may shape opinions on the benefits of early care. These are macro level interventions that, while valuable, are not feasible at the practice level. It may be that neither macro nor micro interventions are sufficient to affect a woman's intrinsic motivation for beginning care; this inherent drive is an internal process. However, actions at the clinical level, such as decreasing hassles and offering physical and psychosocial support, may sometimes catalyze or potentiate a weak motivation into action. (And of course, once action has occurred and access was realized, internal motivation may be strengthened for return visits.)

The prevalent extant conceptual frameworks categorize barriers as maternal, structural, or societal. It is difficult to know if women conceptualize these items as barriers or if this is a product of researchers' theoretical frameworks.[40] In addition, to categorize certain barriers as maternal decreases clinic-level responsibility for problem-solving. Our proposed model shifts the emphasis from barriers to *facilitators,* particularly those within the control of the clinic staff.

The concept of ease is chosen to convey the provision of positive supports as well as decreasing energy demands and daily hassles. To promote ease is to render a situation to be less painful or oppressive; to mitigate; to alleviate, facilitate comfort, accommodate. In the motivation-ease model, promoting ease encompasses and is pertinent in all aspects of access that are external to, but proximal or interfacing with, the client. Promoting ease is a priority for all involved in the provision of care.

Little research has been published about facilitators of prenatal care, especially which aspects of the clinic and provider assist women to access and maintain prenatal care. This is a gap in the body of knowledge, and in the extant theoretical frameworks, which focus on user characteristics instead of clinical characteristics. Shifting the focus to facilitating, or easing, a woman's access to care encourages healthcare providers and planners to view such considerations as a part of their domain, and be amenable to focusing on interventions over which they have control.

The Motivation-Ease (M-E) model was developed retroductively from extant research on women's perceptions of access to prenatal care and clinical practice.[41] The M-E model of access uses the fewest concepts possible[42] to adequately represent prenatal care access as a priority at the clinical level. In this model all the characteristics of the woman are subsumed under the concept of motivation, which is the most cited reason that women fail to begin access into care.[21] All other external aspects of the access process are compressed into the concept of ease, which represents an essential goal of the clinic, that is, to promote or optimize any woman's ability to enter and maintain prenatal care. The goal of the clinic should be to make accommodations to compensate for low motivation to seek care.

Motivation–Ease as a Middle-Range Theory

The Motivation-Ease Middle-Range Theory states that maternal motivation interfaces with the ease of clinic access to affect access and utilization of prenatal care. The concepts of this middle-range theory are derived from Lewin's grand theory of human behavior. His "field theory of human behavior" [43] arose in the 1930s as an antireductionist approach yet compatible with empirical study. Lewin stated that all behavior is a function of the person and the environment as it exists for that person.[44] In the M-E model of prenatal care, the middle range concept of motivation is the aspect of person, and ease represents an aspect of that person's clinical environment. Access is a function of that interface. Utilization of care is the behavior that emerges from a successful interface. The parsimony of this theory and the simplicity of the terms provide a transferable, comprehensible and useful model at the real-life, operational level: the interface of pregnant women and the clinic.

The strength of the interface between a woman and clinic is posited to vary with the person and setting in *a reciprocal* fashion. We use the term reciprocal as in the mathematical definition, that is, inverse relationships of the factors are complementary to result in the product or behavior. In other words, if internal drive or motivation is high enough, a woman might access care even when it may be quite difficult. If motivation is low, the degree of ease must be greater to achieve the desired behavior: the utilization of care. The choice of the word *complementary* is not intended to imply a magic sum of the two parts or a linear process, but rather a combination, which is sufficient to initiate a reaction for an individual. A particular clinic may need a variety of interventions to resonate with the needs of different women. One woman may struggle with transportation while another may need clinical accommodations that are safe for her bring her to toddler.

The proposed M-E theory is consistent with the philosophy or metatheory of critical realism, which acknowledges multiple layers of reality and causality and has been successfully applied in nursing and other health promotion research.[45] A "critical realist approach ….reflects the complex interplay between individual, programm-related, socio-cultural and organizational factors that influence health outcomes in open systems,"[45](p. E8) Specifically "Complex critical realism presents events as being a product of many factors coming together in certain combinations and given the right circumstances or context to causally *generate* new events."[45](p. E8) Figure 2, on the next page, presents a substruction of the M-E theory, from metatheory to empirical indicators

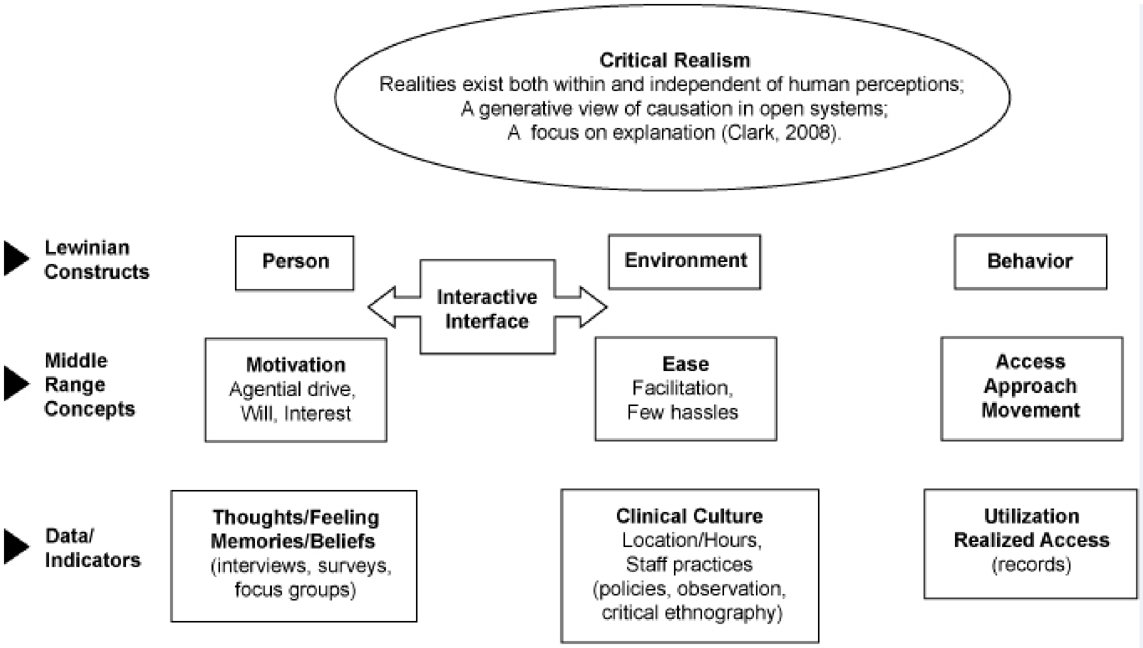

Figure 3: Substruction of Motivation-Ease Theory of Prenatal Access

While clinical characteristics promoting ease can interact with a woman to affect her motivation for care, the clinic exerts minimal direct influence on internal motivation, particularly as a woman contemplates beginning the access process. Ease characterizes the aspects of the external environment that can be influenced by those in the practice setting. Ease is increased when the services and attitudes of clinical environments resonate with the needs of women, and when reduction of barriers to care are designed and embraced by clinic planners, staff, and clients. Ease encompasses convenience, such as transportation and distance, availability of appointments and services, and hours of operation. Ease includes cost and payment options, needs for care of existing children, staff attitudes, language, and wait time at the clinic. The clinic is responsible and can affect attendance and utilization of care by easing a woman's access and complementing her drive to obtain prenatal care.

Exemplars: Theory Naïve or Theory Prescient?

Point-of-contact clinicians are often on the leading edge of designing practical interventions, but direct care providers seldom write about their innovations, although nursing and other organizations often reward innovative practices. With minimal theoretical attribution, practitioners located in small rural clinics to large medical centers have already begun to ease women into prenatal care with multiple open pathways to access. These attempts are congruent with the M-E middle range theory, whether or not they were even considered as theoretically based. We include two excellent exemplars of practical application on small and large scales. Outcome data from the following examples are included if it was available.

Parkland Health Systems in Dallas, Texas, has increased access to care through innovative clinic-level interventions and, with their high volume, have been able to research the impact of interventions on utilization of care. In the 1990s, Parkland began a program to actively increase access to prenatal care, decentralizing and distributing their prenatal clinics throughout their county and providing transportation to appointments for those women on Medicaid.[46] This improved access program significantly increased the utilization of prenatal care.[46] Corresponding to this increase in access and utilization, Parkland also experienced a decrease in preterm birth rates, even as national preterm rates were increasing.[46] These outcomes provide support of the principle that focusing on facilitation or ease can increase access and utilization of prenatal care that has the potential to correlate with improvement in perinatal outcomes.

An East Tennessee birthing center is an exemplar of addressing ease on a smaller scale and in a rural area. This clinic has been easing clients into prenatal care for several years, by gradually adjusting clinic routines to overcome barriers.[47] A bilingual receptionist greets patients in the two most common client languages. Three providers proficient in Spanish have been hired in response to an influx of Latina clients. Evening hours of operation decrease transportation and work-related problems. All waiting and examination rooms include child play areas to assist mothers who bring their young children to appointments. The characteristics of this clinic remove some of the hassles associated with utilizing care. While this small birth center addresses common barriers seen in the literature, the specific adaptations reflect the characteristics of a particular rural area that is no longer populated solely by persons of the Caucasian/Appalachian culture.

Having arisen in the practice sector, the interventions implemented in these varied settings have been based in pragmatism, the philosophy of doers. Between their philosophy and their interventions are unstated beliefs that have been mode overt in M-E theory: that clinicians and staff can assist a woman to access, providing an interface that utilization of care as easy as possible.

Future of Theory-Oriented Practice

Lewin was pragmatic, famously stating, “There is nothing so practical as a good theory.”[48](p.169) The goal of theory is to inform practice and research. A useful theory must be understandable, with real-world salience, to be relevant in a practice profession. Nursing is currently in the process of shaping a new practice doctorate, that is, one that has as a main pillar the translation of research into practice. Middle-range theories in nursing would seem to be the level of abstraction ideally suited to the challenge of theory-oriented practice as they are testable and sufficiently concrete to translate to patient care settings.[38] This nascent theory of access to prenatal care attempts to describe, explain, and influence women's access and continuation in prenatal care by employing two inherently understandable concepts that reflect the person-environment interface. Each concept reflects a simplicity as well as an antireductionist quality congruent with Lewin's field theory and a critical realist perspective. This middle-range theory must be tested to determine its validity and adequacy as well as its usefulness.

We are aware that there are some potential weaknesses in our proposed theory. The proposed relationship of ease and motivation is hypothetical at this point and remains to be tested. Ease does not account for macro-structural factors, but this theory was designed to drive practice and clinical decision making and evaluation at that level. We offer some ideas for testing the theory.

Testing the theory: Remaining congruent with a critical realist paradigm

Realist theories are designed to facilitate empirical testing of potential explanations.[41, 49] Women's opinions regarding what components of the clinic facilitate, or ease, their access into prenatal care are foundational to explicating our theory. The extant literature on women's perceptions of prenatal care access does not include clear information on what facilitates women in obtaining care. Future research needs to query women on what components of the clinic assist(ed) them in obtaining care. Conversely, those who do not interface prenatal care but first access care in an emergency room or already in labor also have valuable information on why prenatal care was not utilized. Survey responses as well as interview and focus groups data from women could be triangulated with extant data on barriers to inform providers on mechanisms of ease as perceived by users and non-users.

It would also be informative to triangulate such findings with practitioners' perceptions of what makes for ease of access. Some ideas concerning the *relationship of ease and motivation*, the dynamics of the interface, and limits of the theory could emerge from the triangulation of views of clients and clinical personnel. Wilson and McCormick have suggested several practice development evaluation methods congruent with the critical realist paradigm.[50] Critical ethnography is another method that would be congruent with the philosophy and the theory.

While women's and practitioners' opinions of what constitutes ease are critical in advancing the theory, they are not sufficient within a critical realism framework, which "includes a reality independent of human perceptions."[45](p. E7) In this regard, utilization data can substantiate which clinical characteristics are associated with greater rates of prenatal care access, consistent with the use of both qualitative and quantitative methods in critical realist research.[41] Utilization of care data gathered from before and after "ease" interventions can be statistically compared to see if clinic changes increase a population's rate of adequate prenatal care utilization and health outcomes.

Usefulness in Other Practice Settings.

Once tested, revised, and validated in prenatal care access research and practice, a revised M-E theory could be investigated for use in other healthcare access settings, consistent with testing a theory to the limits of its validity.[42] The M-E middle range theory may be applicable to care management strategies of chronic diseases, such as diabetes, or in situations where both access and follow-through, such as in various conditions requiring rehabilitation. The concept of ease also is congruent with the increasing use of electronic access, such as in telemedicine, social networks, and virtual communities.

Conclusion

The glaring health disparities in perinatal health in the US must be alleviated. While prenatal care has value in improving perinatal outcomes, it must be more accessible and acceptable to all pregnant women to affect changes in outcomes, especially for the most vulnerable women. Current theories of access to prenatal care are barrier-focused and offer little to clinicians and health planners that would shape a clear framework for action. The Motivation-Ease middle-range theory of access to prenatal care presents a theoretical orientation to the process of access emphasizing the role of the healthcare clinic and provider in facilitating the access process. The theory can be applied in practice and clinical research to frame interventions. There is no disciplinary specific jargon, and the concepts can be understood by all members of a team: providers, staff, and clients. Future research need to test this model for use in variety of populations of pregnant women.

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Phillippi & Myers Manuscript

"I Don't Want to Put Everything Out There With Other Women" - A Qualitative Study of Reasons Appalachian Women Decline Group Prenatal Care.

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Precis

Appalachian women decline CenteringPregnancy, also known as group prenatal care, for a variety of personal and logistic reasons.

Introduction: As compared with individualized care, group prenatal care, also known as CenteringPregnancy, has superior outcomes on several key measures, including the rate of preterm birth. However, during CenteringPregnancy care trials, large numbers of women decline to enter group care or they return to individual care prior to study completion. Appalachian women have high rates of preterm birth, yet clinics in the area have struggled to recruit and retain women in CenteringPregnancy care. **Methods:** Twenty nine women who had declined CenteringPregnancy care at one rural Appalachian birth center were interviewed for this qualitative descriptive study. Conventional (inductive) content analysis of manifest content was used to analyze interview transcripts. **Results:** There were three broad categories of reasons that women did not utilize CenteringPregnancy care: preferred one-to-one care, experienced barriers to CenteringPregnancy participation, and did not know group care was an option. Women who preferred one-to-one care gave reasons for their preference that included a dislike of groups, a fear of bodily or emotional exposure in the group, no need for change from existing individual care, and concerns about partner involvement. **Discussion:** Barriers to CenteringPregnancy include logistical concerns, such as transportation and childcare, and also concerns and fears about group prenatal care. Clinicians should consider adjusting promotional materials to use terminology that is easily understood by potential local participants and that addresses privacy concerns. Modifications of the CenteringPregnancy model, including performing abdominal assessment in a private space, and truncated versions of CenteringPregnancy for women who enter care late may also increase utilization of this effective model. However, even with these changes, CenteringPregnancy may not meet the needs of all women. A large subset of women were averse to group care in any form. Clinics should continue to provide a diversity of prenatal care options to increase access to prenatal care for vulnerable women.

INTRODUCTION

CenteringPregnancy, a proprietary form of group prenatal care, has been shown to be superior to traditional, individual prenatal care in the prevention of preterm birth and low birth weight in a large multisite randomized trial and in several smaller trials in niche populations.[1-6] In addition, mothers who chose CenteringPregnancy have high rates of satisfaction, stating that they would use group care again in the future.[7] Appalachian women could benefit from CenteringPregnancy care as they have high rates of preterm birth and low birth weight infants.[8] However, anecdotally, several Appalachian clinics have had difficulty recruiting and retaining women in CenteringPregnancy care. One clinic provided education about the model at multiple visits early in gestation and enrolled all women in CenteringPregnancy care, yet only 3-4 women would participate in the group by the final session. The lack of utilization of CenteringPregnancy care meant fewer women were receiving evidence-based care and also made financial sustainability of the groups difficult.[9] The reasons for the poor utilization of group prenatal care were not readily apparent, and published literature on the topic was not available.

While studies of CenteringPregnancy have been conducted across the United States and in many other countries, most, if not all, trials of CenteringPregnancy care were conducted in urban locations.[2,3,6,7] Five of eight experimental studies reviewed stated they were performed in urban locations.[2,3,6,7] The other three did not indicate if the recruitment sites were urban or rural.[1,4,10] Rural women may have different needs than urban women related to a lack of public transportation, needing to drive long distances to obtain care, or a cultural reluctance to discuss health concerns.[11-13]

Analysis of the studies on CenteringPregnancy and group prenatal care indicated that low rates of acceptance may be the norm, even in urban areas. Many published studies included only women who had already opted into CenteringPregnancy care[1,6,7] or who were not given a choice of care format at that clinic.[2,4,7] Even in the two randomized trials, the women were given a choice to participate in randomization or enter traditional care.[5,10] In Ickovics et al.'s study, one third of eligible women declined to participate in randomization despite incentives for participation.[5] Several trials also had high rates of attrition back to traditional care.[2,3] This suggests, while CenteringPregnancy is an excellent model for women who are interested in group prenatal care, there are women who do not find the model appealing.

No current literature was found to explain the reasons women decline CenteringPregnancy care. Since CenteringPregnancy care has superior outcomes when compared with individual care, further exploration was needed to provide insight into women's decision. More information would allow clinicians to address barriers to CenteringPregnancy care, allowing more women to receive high-quality, evidence-based prenatal care. The purpose of this study was to explore the reasons Appalachian women decline CenteringPregnancy care.

BACKGROUND

The setting for this study was a rural birth center in the Southeast, which was founded in 1983 to provide access to perinatal care to residents of the surrounding rural area. Accredited by the Commission for the Accreditation of Birth Centers (CABC), the center also was a Rural Women's Health Coordinating Center. The community-owned birth center employed three full-time certified nurse-midwives who provided full-scope care to women and newborns through the first 28 days of life and attended about 90 births per year onsite and 30 births per year at the local hospital. Even though only low risk women could give birth at the center, approximately 90 women per year used the center as an access point into the larger regional perinatal system by receiving prenatal care at the center and giving birth at a nearby tertiary-care hospital. To facilitate access into care, the center offered evening appointments at least one night a week and had Spanish-speaking providers and staff.

In 2008, the center began offering CenteringPregnancy, but struggled to recruit and retain women in the group model of care. The midwives tried many strategies to increase the utilization of CenteringPregnancy care, including adding CenteringPregnancy information to orientation packets, discussing the value of CenteringPregnancy care at multiple prenatal visits, and constructing a conference room specifically to meet the needs of CenteringPregnancy care. The midwives even began enrolling all women in CenteringPregnancy care and giving them their group appointment card during the prenatal visit. If women did not want group care, they had to intentionally opt-out of CenteringPregnancy to return to individual care.

However, utilization of CenteringPregnancy remained low. Groups started out with few women and many of them would return to individual care over the course of their pregnancies, further reducing the numbers of women in the group. It was not uncommon to have only 3 women in the group by the final group visit at 36 weeks. It was difficult to justify the cost of maintaining a group with low numbers, as providing CenteringPregnancy care was more expensive than providing individual care to this number of women.[9] However, the midwives were committed to providing high quality, evidence-based care and did not want to abandon the CenteringPregnancy model without a thorough investigation of the reasons women were not utilizing group prenatal care.

METHODS

Research Design

A qualitative descriptive design was used for the study. Semi-structured interviews and demographic questionnaires were used to gather data, which was analyzed using conventional (inductive) qualitative content analysis of manifest content as described by Elo and Kyngas,[14] and Graneheim and Lundman.[15] The theoretical basis for the study was critical realism as it acknowledges the dualism of individual choice and societal pressures in health decisions[16] and has been shown to be useful in the study of complex health systems.[17-19] Institutional Review Board approval was obtained from the University of Tennessee, Knoxville.

Sample

Data were collected at one rural, Appalachian birth center in the Southeast from February 2011 through May 2011. Participants were recruited using flyers placed in waiting and exam rooms and in patient charts. Interviews were scheduled or took place after the woman's prenatal visit. All adult women who had declined CenteringPregnancy were invited to participant in the study. Since there were no Spanish-speaking CenteringPregnancy groups at the time the study was begun, women who spoke only

Spanish were excluded from the study as they had not declined CenteringPregnancy care. Twenty-nine women completed an interview and demographic questionnaire.

The demographic questionnaire targeted common barriers to prenatal care access as described within the literature, such as the need for child care and transportation.[20] It included fill-in the blank questions about basic information and two questions with Likert scale responses. The questionnaire was designed to contextualize the women's comments and provide more depth about their decision to decline CenteringPregnancy care. The questionnaire was examined for completeness by the research team and D.E. Jesse, a nurse-midwife who has extensive research experience with pregnant Appalachian women.[21-23] Data obtained from the demographic questionnaire are presented in Table 1.

Other demographic information about study participants is summarized in Table 2. Based on the county's 2010 census racial composition and the racial composition of the center's 2010 patients, the study was able to recruit a reasonable cross-section of the center's English-speaking patients.

Data Collection

The primary researcher conducted all interviews. All but one of interviews were conducted at the center following the woman's prenatal appointment. (One prescheduled interview took place at a local library.) Women read or had read to them an informed consent document before they signed and also gave verbal consent for participation and recording. The primary researcher asked 5 semi-structured questions of each woman during the recorded interview. Two introductory questions were used to build rapport and discuss facilitators of prenatal care access. Women were then asked about how they made the decision to decline CenteringPregnancy care. A final question was used for clarification of findings and to allow women the opportunity for additional unstructured comments. Following the interview, women completed a demographic questionnaire. The questionnaire was placed after the interview to avoid the questions prompting the women's interview comments.[24] Field notes were dictated following interviews and included body language and other important contextual information, as described by Patton.[25]

Interviews were transcribed verbatim; participants' words were kept intact even if they were grammatically incorrect or used vernacular or local euphemisms. Following transcription, the interviewer added crucial body language to the transcript to keep the women's comments in context.[26] For instance, in describing her reason for declining CenteringPregnancy care, one woman pointed to her 18-month-old child who was furiously trying to open a file cabinet.

Data were collected until the primary researcher felt no new information was being obtained in the interviews, known as saturation of findings.[24] However, after an initial review of the 24 interviews, the information on the decision-making process seemed thin and 5 additional interviews were conducted with the inclusion of more in-depth questioning surrounding the decision-making process. These last 5 interviews greatly increased the depth of findings, and full data analysis was begun.

Data Analysis

All transcripts and field notes were entered into ATLAS-ti, a computer program designed to organize data and codes during qualitative analysis; the use of qualitative coding software increases reliability and facilitates validation by co-researchers.[14]

The goal of convention qualitative content analysis is, "making replicable and valid inferences from data to their context with the purpose of providing knowledge, new insights, a representation of facts and a practical guide for action,"[14](p. 108) which was an excellent match with study objectives. Conventional, or inductive content analysis, develops categories from the data rather than from the literature, and is an ideal approach when limited previous research is available on the topic.[27] The steps in conventional content analysis are data immersion, selection of a unit of analysis, open coding, creation of categories, and abstraction of the data.[14]

In the immersion step of analysis, the primary researcher listened to the recordings repeatedly and read the transcripts and field notes several times to achieve a sense of the whole of the data, using the demographic questionnaire for additional context on the women's lives. To include enough contextual information, the unit of analysis was all the information obtained from one participant, including the interview, field notes, and demographic questionnaire. Following identification of the unit of analysis, the primary researcher open coded all transcripts and field notes. The other researchers open coded a variety of transcripts, and the team compared codes across researchers to ensure rigor and trustworthiness.[15]

Initial analysis revealed several meaning units, or groups of content on a similar topic, within the transcripts. Meaning units included information about facilitators of prenatal care, the choice of birth center care, and the reasons women declined CenteringPregnancy. Only the analysis of the CenteringPregnancy meaning unit will be presented in this manuscript.

Following the initial coding of the manuscripts and identification of the central meaning unit, all codes were examined for overlap and value. Redundant codes were combined, and the core meaning of codes defined and refined, a process known as distillation.[14] At this point, each quote for a code was read again and a definition for the code written and housed in ATLAS-ti. Codes sharing commonalities were grouped into categories, which were repeatedly refined and reduced to their essential meaning, a process known as abstraction.[14]

After initial findings were complete, member checking was used to verify accuracy of findings.[15] Women who had consented to be re-contacted were e-mailed or phoned with the findings of the study. In addition, the midwives at the study center and a similar center nearby examined preliminary findings. One woman and four midwives contacted the primary researcher to confirm the findings as accurate and complete.

RESULTS

In general, women gave only one reason they did not participate in CenteringPregnancy care. Many women reported they made the decision quickly, soon after hearing about the group model of care. Three overarching categories were identified related to the women's responses concerning their reason to decline CenteringPregnancy care: preferred individual care, had barriers to participation, and did not know about Centering care. A visual depiction of the data can be seen in Figure 1.

One-to-one preference

A preference for one-to-one care was the most commonly expressed reason for declining CenteringPregnancy care. Many women used the expression, one-to-one when describing individual care. When their preference for individual care was explored further, women gave reasons that fell into four subcategories: don't like groups, don't want to put everything out there with other women, no need for change, and partner involvement.

"I am not a group person" – Women who don't like group settings

A large number of women expressed they did not like groups and declined group care solely because they would have to be with other women. For most participants this was expressed as an overall dislike of groups or crowded settings. The women often expressed that in front of others, they did not speak up. One woman stated, "I don't like a lot of people. It makes me feel uncomfortable. - Like being in school. And I just stay quiet and won't ask any questions or anything." One woman had used CenteringPregnancy with a previous pregnancy and felt, "there was just too many people for me." Another woman stated,

> *"I'm just not a - I'm not a group person because, like we had to do the group thing with WIC, and they're all like, 'What questions do you have?' I'm like, I just want to go home."*

For some women the dislike of groups went beyond generally uneasiness and approached anxiety. Many of these women had adjusted their lives considerably to avoid group settings. One participant described her reaction to hearing about CenteringPregnancy,

> *"The first thought in my head was, 'Oh, God, I'm going to have to sit with all these other people!' . . . It's just - having anybody in my personal bubble makes me uncomfortable. I don't even like being in crowds . . . So that's why, I guess, it freaks me out."*

The women who did not like groups, especially those who expressed anxiety, often mentioned how quickly they made their decision to decline group care. For many, if not all, of these women once they heard the care was provided in a group setting, they ruled out CenteringPregnancy as a possibility.

"I don't want to put everything out there with other women" – Fears of exposure in the group

Many women expressed a fear of emotional and physical exposure in the group setting. Many of these women stated they generally enjoyed group settings but did not want to receive their medical care in a group for a variety of reasons, including privacy, fear of emotional break-down, and distrust of disclosing private information to strangers. These concerns about exposure blended together in their conversations and were often expressed in colorful euphemisms. These women did not feel the other group members would add value to their experience enough to overcome their resistance to personal disclosure. Participant concerns often focused their disdain for displaying or discussing their body with others.

> *"See, that (the belly check) would be very uncomfortable to me - if I had to do that in front of everybody else, because I don't like the way that my body looks, and then when you're pregnant you don't like it even worse - or you don't like it even more, you know. And then it's like you have to - pull your shirt up and all that other mess. That would be very uncomfortable in front of other people, I think. But if you got to do that privately and the rest have it later, that would be fine, I guess. (pause) As long as you didn't mind your business spread all over the place. . . . Like I said, I'm a very private person. I don't like anybody in my business. My bedroom door stays shut constantly. You know, that - it's kind of like digging in your underwear drawer. You know, you're literally in somebody else's underwear."*

Privacy was a prime concern for women who wanted one-to-one care. This extended from privacy concerning their medical progress to exposure of their concerns surrounding the pregnancy.

> *"I'm not big on sharing a lot of stuff with people I don't know. . . I'm not one of them, "Oh, yay, I'm pregnant. Let's get all (trails off)." No, if you're not family or my doctor, I don't - I don't want - I don't care what you've got to say. I'm just - I'm not an all sharey person. . . I just like to keep it to the people that I trust."*

Many women feared emotional disclosure or emotional breakdown within the group, "I mean what if you get emotional about something? You don't want to be embarrassed in front of other people. That's really, I think, the big thing."

The strong aversion to sharing information with other women may be related, in part, to the rural nature of the clinic. As one woman put it, "I don't want to put everything out there with other women and (pause). I mean I see them anyways." It would be rare in this small community to have a gathering of 8-12 women where no one knew each other. Many women expressed that they feared others would know their private information.

Their distrust of discussing pregnancy with others may have a cultural link. Appalachian culture is very suspicious of people outside of the family unit and there is a strong cultural taboo against disclosing negative personal information to others.[11,12] However, the women within the study who voiced privacy concerns were often from outside of the region and were of diverse racial and ethnic groups. In addition, the privacy concerns expressed in this study are very similar to statements of women in a recent qualitative study of CenteringPregnancy care in a large urban area with predominately African American women,[7] suggesting that many women have concerns about their privacy during group prenatal care.

"I'm scared to try something new" - No Need for Change from Existing Care

A small group of women did not have strong feelings against CenteringPregnancy care but felt no reason to change from their existing care format. The women in this group had mild feelings on the matter. Some of these women were happy with their current care and reluctant to change, while others expressed they did not want an unknown format of care or they were, "scared to try something new."

"That way he can feel more comfortable" – Concerns About Partner Involvement in Group Care

Two women stated the main reason they did not participate in CenteringPregnancy was that they wanted their partner to be involved but did not think he would enjoy group care.

> *"Just because it's mostly all women. I know there's some men that go, but I don't think he would care all that much about it, you know what I mean. So we are just going to do regular (prenatal care) and that way he can feel more comfortable."*

Many women briefly mentioned concerns about partner involvement in the groups. Women did not understand how partners were integrated into the group and this uncertainty made them uneasy. Participants wanted their partners at prenatal visits care, but were afraid of having discussions or physical care while men (other than their partners) were present.

"*I would have enjoyed it, but it didn't work out*" - Barriers to Centering Care

Seven women expressed they were not able to attend CenteringPregnancy due to barriers. Most, but not all, of these women stated that they would have used CenteringPregnancy care if it would have worked for their schedules. For many women the meeting time interfered with their or their partner's work schedule. Partners were mentioned often as being needed for transportation and childcare. The women experiencing barriers did not discuss partner involvement in the group but had more logistical needs involved with having a single vehicle and/or toddler children. One woman explained that if public transportation were available, she would have been able attend groups; instead, she had to rely her boyfriend for transportation, and he was not available at the group time.

The needs of existing children were often mentioned as a barrier to CenteringPregnancy care. Several women reported their young children would be disruptive during the two-hour long CenteringPregnancy visits. For at least one woman, the group time conflicted with the time she needed to pick up her child from elementary school.

Women who mentioned barriers to care had more to say about their decision not to participate in CenteringPregnancy and expressed more knowledge about the content and format of CenteringPregnancy care when compared with women who declined for other reasons. Women experiencing barriers had often tried to make CenteringPregnancy care work with their schedule but had been unable to reconcile their multiple responsibilities with the assigned group time.

It is interesting that the barriers to CenteringPregnancy care in this study closely mirror barriers in previous studies on access to prenatal care: transportation, childcare, and acceptable appointment times.[20] Participants had successfully negotiated their childcare, work, and transportation needs, often very creatively, to be able to get individual prenatal care but did not feel they would be able to juggle those demands to come to the CenteringPregnancy group. The rural nature of the clinic and the low socioeconomic status of many of the women may have complicated this juggle as many only had one car, little money for gas or childcare, and a long distance to drive for prenatal care.

***"I was never offered that"* - Did not know CenteringPregnancy was an option**

The center used a chart coversheet to denote when women were offered CenteringPregnancy care, and if they accepted or declined CenteringPregnancy. A nurse-midwife screened charts to find appropriate participants for the study. Only women who were recorded as having declined CenteringPregnancy were given a flyer or approached for participation. Despite this screening process, five women stated that CenteringPregnancy had not been offered to them.

On closer investigation, three of the women had begun care at the clinic past 20 weeks of gestation. There was not an official policy dictating when and if women could enter a CenteringPregnancy group after the initial visit, but introduction of new members can be difficult once groups are established since the learning content of visits does not repeat and the social integration of new women can be difficult.[28] One woman stated she had previously used CenteringPregnancy care and loved it, but she had entered care too late in this pregnancy to use CenteringPregnancy; it was not clear from her statement if she had decided it was too late on her own or if the midwives had been consulted.

It is likely the midwives had recorded the women as 'declined' since there was not a box for 'not applicable' on the chart. Entering prenatal care in the second or later trimester is often a sign that women had trouble with access.[20] Women who struggle with access to care often have other risk factors for preterm birth and low birth weight and may benefit from CenteringPregnancy care.[29]

Two patients, who had received prenatal care the center since early in their pregnancy, did not remember being offered CenteringPregnancy, but, on discussion, these women had extenuating circumstances, such as long drive times and limited English, that may have caused the midwives to rule out CenteringPregnancy as an option.

DISCUSSION

A major limitation of this study was that only women from one rural Appalachian clinic were interviewed. However, the strong concordance of the results with findings from other qualitative studies of CenteringPregnancy care[7,10] and the literature on access to prenatal care[20] suggest that many women have concerns about receiving their prenatal care in a group setting or have difficulties accessing CenteringPregnancy care.

The experiences of these women demonstrate the variety of reasons women do not participate in CenteringPregnancy and provide clinicians with needed information to guide practice. Clinicians should work to decrease barriers to CenteringPregnancy participation to allow more women to enjoy group prenatal care and reap the benefits of this model. The women mentioned a variety of barriers to care, including logistical concerns such as timing of the group, childcare, and concerns about the model itself. Several strategies can be used to reduce these barriers. Ideally, CenteringPregnancy groups could be offered at a variety of times to allow women to choose the best time for their schedule. However, in small clinics this is not feasible. Clinicians should choose the group time carefully to avoid conflicts such as school dismissal. Many of the women in the study needed their partners to be home from work to have transportation and childcare; evening groups may assist these women.

Several women in this study did not choose CenteringPregnancy because they felt their small children would be disruptive during the group meetings. This finding is confirmed in Kennedy's qualitative study of CenteringPregnancy.[10] On-site childcare may help women with small children use the group model and may increase overall satisfaction with CenteringPregnancy care.

Many women declined CenteringPregnancy as they did not want care provided in a group setting, but had minimal knowledge of what group care involved or the positive attributes of CenteringPregnancy, despite receiving information from their care providers on multiple occasions. Adoption of new processes, models, and ideas is often difficult. While the people of Appalachia, in particular, are known for their reluctance to change health behaviors and adopt new ideas,[30] it is difficult to promote new ideas across population types.

The theory of the diffusion of innovations states that the majority of people are reluctant to invest in a new technology or idea.[31] Instead, the spread of innovations depends on a few adventurous people, known as early adopters, who enjoy trying new things. Early adopters try innovations and disseminate the information to others. Risk averse people are more likely to try innovations if they have been recommended by someone they trust.[31] Companies often enlist early adopters to assist in marketing their products by providing perks, premium services, or even free products in the hope that the early adopters will influence others.[32] Early adopters can exert their influence in person and through blogging, social networking sites, and twitter, and their recommendations can greatly impact others decisions.[32]

While being careful to remain ethical, health care providers can also use early adopters to expand acceptance and decrease anxiety about new forms of care.[33] For care to be effective, it must first be acceptable, and early adopters can help allay the fears of more reticent people.[34] Healthcare providers can use early adopters to promote utilization of CenteringPregnancy care within the larger community by encouraging women who have been through CenteringPregnancy to explain and promote the model within the community or clinic.

Local women could also develop better terminology to market CenteringPregnancy care. Many participants reacted strongly to the word ‘group,’ associating it with previous negative experiences such as school and mandatory nutritional counseling. One woman even commented, “It almost makes you feel like you’re in rehab.” Perhaps the term ‘group’ is inappropriate for this population and can be adjusted to better meet local concerns. If CenteringPregnancy was described with terms associated with social networking, women’s groups, or other acceptable activities, it might be better utilized.

Many women in this study and other qualitative studies of CenteringPregnancy care expressed concerns about privacy within the group visit.[7,10] Participants were so concerned with being physically or emotionally exposed within the group that they declined CenteringPregnancy care. Clinicians should address privacy concerns when first discussing the group model of care. It may be worthwhile to make small modifications in the format of CenteringPregnancy to make this version of prenatal care more acceptable. Since this and several other studies have found women did not like exposure of their belly in the group space,[7,10] it might be beneficial to measure fundal height and fetal heart tones in a private room to increase women's comfort with group visits, but this needs further exploration to ensure this small change does not adversely affect the group process.

Additional modifications in CenteringPregnancy might allow more women access to this proven model. Several women in this study entered care late in pregnancy and were not offered participation in group care. A truncated version of CenteringPregnancy could be created for women who enter care late. While an abbreviated CenteringPregnancy group may be less effective in preterm birth prevention, as women will receive less exposure to CenteringPregnancy before term, it may still have value in increasing maternal knowledge about labor, birth, and breast-feeding.[3,5] It is worthwhile to explore methods of increasing access to group prenatal care so that more women can receive the benefits of this more effective model. In addition, greater numbers of women utilizing CenteringPregnancy care improves financial sustainability.[9]

Even as barriers are eliminated, not all women will find CenteringPregnancy care appealing. In published studies of CenteringPregancy care, large numbers of eligible women never opted for group care,[3,5] and in this study, many women were overtly averse to group care. Women who opt for group care may have different personalities than women who choose individual care, and this should be explored further with research as there may be self-selection bias in the trials of CenteringPregnancy. Consistent with ethical research, even the randomized controlled trials allowed women the option not to participate in the trial and receive individual prenatal care. It is possible that group prenatal care has better outcomes than traditional care but only for women who are open to group care.

The women in this study had a wide range of reasons for preferring individual prenatal care. It is possible that some of their reservations might be overcome through the changes in marketing of the CenteringPregnancy model discussed previously. However, a subset of women will most likely never enjoy group care, and their desire for individual care should be respected. While evidence-based care is important, if group care is the only format of care available, some women might feel alienated or be unable to access prenatal care at all. Even as CenteringPregnancy continues to gain credibility as a more effective model of prenatal care, clinicians may need to provide a variety of prenatal care models to meet the needs of a diverse patient population.

CONCLUSIONS

This study is the first qualitative study of women who declined CenteringPregnancy care and is limited by its narrow sample population in a rural Appalachian birth center. However, the concordance of these findings with other qualitative studies suggests that many women have concerns about the group prenatal care. Clinicians can use this information to adjust their marketing of group prenatal care and decrease barriers to this more effective model. Small modifications in the CenteringPregnancy model may assist more women in utilizing this effective model, but this needs further research. In addition, the results of this study suggest that clinicians should continue to provide individual prenatal care to meet the needs of women who would not feel comfortable in a group setting.

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Appendix B: Demographic Questionnaire

Your age ______

How many times have you been pregnant? ________

How many times have you given birth? __________

How many children are in your home during the day? ___________

(include all children you care for during the daytime) _____

How many children regularly sleep in your home? _______

Do you work outside the home? ___________________

How many hours a week? ______________________

What do you do? ________________________________

What was the highest grade or year of college that you completed? ______

How involved is the father of this baby?

Very involved   Involved   Not Involved   Never involved

Were you using any birth control when you got pregnant? ________

Were you trying to have a baby when you got pregnant? __________

Do you have reliable transportation?

Always	Most of the time	Not usually	Never

How do you get to your prenatal appointments? _________________________

How far do you have to drive (in minutes) to get to the Maternity center?

____

Do you have responsibilities that are stressful to you?

What are they? _____________________

Appendix C: Tables & Figures

Table 3: CenteringPregnancy Literature Review

Author	Sample Size	Area of the US	Urban / Rural	Race / Ethnicity	Type of Study	Participation	Study Findings
Novick et al. 2011	21 women	Northeast	Urban	85% African American 14% Hispanic	Qualitative (interpretive descriptive)	Only women in CenteringPregnancy offered study participation	"The central finding was that women enjoyed receiving their prenatal care in groups" (p. 101)
Kennedy et al., 2009	322 women total Randomized to traditional & Centering care	Eastern Seaboard & Pacific Northwest	An Air Force Base and a Navy hospital	59.2% White 18% African American 10.8 Latina Asian/Pacific Islander 5.7% Other 11%	Qualitative portion of a larger mixed methods study	Women offered participation in the trial of Centering then randomized to traditional or Centering care	Women in Centering groups enjoyed the experience of hearing other women's stories as it made them feel less alone. Women provided many suggestions to improve group prenatal care including having more privacy for the exam. Suggestions for individual care were also stated by the women The women often did not like specific providers and wanted more continuity of care, and time with their providers.

Table 3 Continued

Author	**Sample Size**	**Area of the US**	**Urban / Rural**	**Race / Ethnicity of Centering Group**	**Type of Study**	**Participation**	**Study Findings**
Klima et al. 2009	317 total 110 Centering 207 control	Midwest	Urban	100% African American	Comparison group was women who received individual care and gave birth at one local hospital	<16% of eligible women completed more than 4 Centering Groups. No data on exact number of potential participants No data on attrition rate	The CenteringPregnancy group had significantly more prenatal visits, weight gain, breast-feeding rates, and maternal satisfaction. Qualitative data from CenteringPregnancy participants and providers included. Providers had concerns about sustainability.
Robertson, Aycock, & Darnell, 2009	49 total 24 in Centering	Not stated	Not Stated	100% Hispanic	2 group non-equivalent pre-post test comparison group design	Enrolled women as Centering group or control based on their pre-chosen type of care, only women with >4 visits recruited 60% of participants lost to follow-up	Women who chose traditional care had significantly more pregnancies and living children than women who chose Centering No significant differences in outcomes between groups.

Table 3 Continued

Author	**Sample Size**	**Area of the US**	**Urban / Rural**	**Race / Ethnicity of Centering Group**	**Type of Study**	**Participation**	**Study Findings**
Ickovics et al. 2007	1,047 total 653 in Centering 394 in traditional	Northeast & South	Urban	81 % African American 11% Latina 7.5% White	Randomized controlled trial Originally designed to study HIV risk behaviors	32% eligible for randomization declined	Centering participants were significantly less likely to have a preterm birth or an inadequate number of prenatal visits and they had significantly higher rates of breast-feeding, prenatal knowledge, feelings of readiness for labor and birth, and maternal satisfaction
Baldwin, 2006	Total 124 recruited 98 retained 50 begun in Centering	Northeast, Midwest, South	Not stated	78% white (would include Hispanic women) 21% non-white	Nonequivalent control group pretest/posttest design	Women who opted for traditional care were the control, Women who opted for Centering were the experimental group	No significant differences between groups in locus of control, social support There was a significant increase in knowledge of pregnancy in the Centering group but the knowledge assessment tool did not have high reliability scores
Grady & Bloom 2004	124 in Centering	Midwest	Urban	94% African American	All women who declined Centering initially used as	Teens could only get care at this center if they	No differences with original comparison group.

Table 3 Continued

Author	**Sample Size**	**Area of the US**	**Urban / Rural**	**Race / Ethnicity of Centering Group**	**Type of Study**	**Participation**	**Study Findings**
	2 comparison groups of 144 and 233			6% Caucasian	control. A second comparison group was chosen from the hospital's database (no statement on why this year of data was chosen and may represent data mining)	agreed to Centering – no rate of initial withdrawal stated. Of women who enrolled in Centering, there was a 22% attrition rate	When compared to the second comparison group, the Centering group was significantly younger and Caucasian and had significantly fewer preterm births and low birth weight babies.
Ickovics et al. 2003	458 total 229 in Centering 229 in traditional	Northeast, South	Urban	80% African American 15% Latina 5% White	Matched cohort For each woman that agreed to participant, a matching patient with identical demographic info was randomly chosen from a database	Women who had already opted for Centering were compared with women in traditional care Intent-to-treat analysis means that there was no reported attrition rate	Centering participants gave birth to infants with a statistically significant higher birth weight than traditional care participants.

Table 4: Selected Participant Quotes for the One:One Preference Category of the CenteringPregnancy Meaning Unit

Interview quotes	**Code**	**Definition of code**
Don't really care to be around all the other people. I would just sit there and not say much, so – Well, I was in centering with (child), and I am not like a people person - and there was just too many people for me. So I'd just rather it just be 1-on-1 . . . I'm just -I'm not a people person This pregnancy I'm - oh, how do say - antisocial. And so that was really easy for me to make. I was like no. No. No, I did not want to be in a group. I guess I'm shy . . that's about the only reason. . . I ain't used to that, I guess. It just - having *anybody* in my personal bubble makes me uncomfortable. . . I don't even like being in crowds. So it's like, "Okay, you're right there next to me, go away." So that's why, I guess, it freaks me out. . . So I think that - you know, the first thought in my head was, "Oh, God, I'm going to have to sit with all these other people." You know, I wouldn't be opposed to it if I had to, but, like I said, I just - prefer the individual, just - it makes me feel more comfortable, you know.. . . I don't connect. I'm not a social person. I don't connect well with other people, so then, you know - and, of course, if somebody is doing something stupid I'm thinking, "Oh, my God." . . . Maybe if it was proposed in a different situation, like (claps) "You want to go to group!" (puts up hands like a cheerleader) But, you know, - but it almost makes you feel like you're in rehab. I don't like a lot of people. It makes me feel uncomfortable. - Like being in school. And I just stay quiet and won't ask any questions or anything. . . It makes me feel uncomfortable being around a lot of people that you don't know.	Don't like groups	Expresses that she does not like being with people, groups
I've got issues with like - people anxiety that I don't really - Like me and you sitting here talking right now, how shaky my voice is. I'm just leery of people. Well, I kind of have anxieties and stuff, so I don't really do well in a group setting. I like better, you know 1-to-1 instead of talking with a group full of people. . .It's just something I've always had in my life. . . I don't like walking into a room full of people or -I will get somewhere so that I could be the first 1 in and wouldn't have to walk in with anybody standing - or being in there already.	People Anxiety Subcategory of Don't like groups	Fear of groups, anxiety in groups - an escalation beyond just not liking groups or people

Table 4 Continued

Interview quotes	**Code**	**Definition of code**
Well, it's my first pregnancy and -my husband and I just want to keep this a more intimate thing than - you know, just share it with us and - not really put it out there with everybody else. I just kind of like the 1-on-1 kind of thing and -I'd like to leave it at that. I don't want to like put everything out there with other women and - I mean I see them anyways. I'd just like to keep it between us. Keep it clinical. . . .I really don't want to hear what - I just don't - more power to you. I know you're going through that and we'll all pray together - you know. We're all up here together, but I don't want - I don't need you to hear my bathroom stories and my - I'm sick and I. . . . We all know how we got in this situation. I mean we don't need to have lunch, let's just - let's just, you know, make sure my blood pressure's okay and. . . Let's keep it real and go home. . . . Like it doesn't matter - I'm happy for everybody else who's pregnant, but we're not going to stay in contact after the baby's born, and so see you later. I'm not big on sharing a lot of stuff with people I don't know. And I just feel more comfortable when it comes to my babies. If it's not family - and it's not my midwife, you don't need to know. It's my body, my baby, and -I just - I don't like other people. I'm not one of them, "Oh, yay, I'm pregnant. Let's get all" - no, if you're not family or my doctor, I don't - I don't want - I don't care what you've got to say. I'm just - I'm not an all sharey person. I like - like I said, I just like to keep it to the people that I trust.. . . . I just would rather have my 1 on 1 versus - everybody - all up in it. See, that (the belly check) would be very uncomfortable to me - if I had to do that in front of everybody else, because I don't like the way that my body looks, and then when you're pregnant you don't like it even worse - or you don't like it even more, you know. And then it's like you have to - pull your shirt up and all that other mess. That would be very uncomfortable in front of other people, I think. But if you got to do that privately and the rest have it later, that would be fine, I guess - as long as you didn't mind your business spread all over the place. . . . I really don't care what other people think, but at the same time it just - like I said, I'm a very private person. I don't like anybody in my business. My bedroom door stays shut constantly. You know, that - it's kind of like digging in your underwear drawer.	Don't want to put everything out there with other women	Concerns about care or discussion in front of other women, encompasses privacy concerns

Table 4 Continued

Interview quotes	**Code**	**Definition of code**
You know - You know, you're literally in somebody else's underwear. Everybody gets to see it. Well, I mean just, you know, talking about the individual care, people need their individual care because they don't - I mean what if they have a specific situation that to them is embarrassing. They're not going to speak up in front of five other people and be like, "Hey, guess what! I've got this problem!" you know. Or they might think that they're strange even though all the other people are having that problem, they don't know that - you know, so I mean like I'm just not a - I'm not a group person because - like we had to do the group thing with WIC. And they're all like "What questions do you have?" I'm like, "I just want to go home." Of course, I'm not - I'm not completely opposed to the idea. If I had to do it, I would. But, I don't know, I just think - and, you know, you can get - I mean what if you get emotional about something? You don't want to be embarrassed in front of other people or - That's really, I think, the big thing.		
I like this much better. . . It's just more relaxed here. It doesn't feel so doctor office, you know. I'm scared to try something new, I guess, maybe what it was. It just didn't . . . . - It's new and it's different, so it's scary. So then you think, "Well, I think I'll just kind of stick with what I've got, if I've got the option. . . . Really I just - I just kind of . . was just going . . .with what I kind of wanted to do. I don't know. For me, I mean just having 1-on-1 is enough and I like that. I mean I don't mind interacting with other people too, but - I don't know. I just kind of wanted to do that this time. I don't really know why. . . I just kind of go with what everyone does, I guess. I don't know.	No need for change	Expressions that there was just no reason to choose Centering, happy with current care.
Participant: because that way my husband and I can go - and the birthing center, it's more just all women and I know my husband can go, but I'd rather him feel more comfortable. . . I know there's some men that go, but I don't think he would care all that much about it, you know what I mean. So we are just going to do regular and that way he can feel more comfortable and stuff.	Partner Involvement	Does not want to go to Centering because father of baby would not be as comfortable in the group.

Table 5: Selected Participant Quotes for the Barriers to Centering Category of the Centering Pregnancy Meaning Unit

Interview quotes	**Code**	**Definition of code**
I wanted to attend the group of womens where you would get together and - - they'll teach you more about how to - learn a little bit more of how to treat your baby and so forth. The only thing is my job got in the way, like - my time. I was unable to get someone to drive me back here and so forth. Since I don't drive it's kind of hard. My schedule wouldn't permit it. I was going to do that, but my daughter's - my husband works, so I can't - I don't want to take her with me and - it just take long and so I just did the single - or the private. Well, mostly it was just because the day that they had the group care - was a day that I was working. I only worked 1 or 2 days a week. And that was on one of those days. Plus the time that it was would have kind of interfered with going and getting (son) from school too. So either way it kind of would have been a difficult thing, but I had thought about it, and when - [midwife] had mentioned it to me, and I thought about coming and going that - but with work the way it was, it didn't really - didn't work out. Phillippi: So if it would have been on a day that did work for your schedule, it would have been something that you were interested in? Participant: I would have, yeah. I would have - you know, I kind of just read about what it was. But, you know, I had told [husband], "If that would work I would go"- "at least to one and try it and see if I liked it." And then if I didn't - I'm a people person, so I don't think it would have bothered me. I think I probably would have enjoyed it. I like to talk to other women especially that are pregnant. . . It's nice to talk to other people, especially when it's their first time - kind of, you know - encourage them, that kind of thing. I would have enjoyed it, but it didn't work out. That's okay. Maybe next time. So I think, you know, it just kind of happened a little bit too late (entered care too late for Centering) and everything, but I loved the centering too. It's really nice to meet other moms and, you know, socialize and actually kind of talk about fears or expectations, whatever. So really to me either one is really good. As you can tell, I don't mind talking about the whole thing	Barriers to Centering	Lists barriers to attendance of Centering, encompassing expressions of wanting to attend but unable but expressing desire to attend is not required

Table 5 Continued

Interview quotes	**Code**	**Definition of code**
and about the experience or likes or dislikes, so, you know, I'm - I definitely - like I said, though, either way - even in the centering you still feel like there is - almost like still that friendship, that 1-on-1 - with the midwife. They still care. They still know you're name Mainly just babysitting – the timing. Or like my boyfriend, he works every day, so -I mean he wants to come, or we would miss it. Something always came up. We just never could make it, so - that's the only reason. It just didn't work out at the time. I had the centering with my first child. And we didn't want to have to go through that again. It was awesome to be able to be in the centering group, but it was just (points to daughter who is trying to open file cabinet). Like with my daughter and everything - it'd be hard to come up here with her because he works during the day. . . That would be hard for me to bring her up here because she wants to run around and terrorize everything.		

Table 6: Selected Participant Quotes for the Facilitators of Prenatal Care Meaning Unit

Interview quotes	**Code**	**Definition of code**
What helps me? Well, it was kind of hard at first, I wouldn't have qualified for state insurance; my husband made way too much money and stuff, so we were able to get me on his insurance, thank goodness. But after that we couldn't get pregnant because we had - the insurance changed with a $2000 deductible, and we had - could not afford it.. . . Basically, we would have paid for almost the entire thing. It's a $2000 deductible per year. That pretty much would have meant we paid for the entire prenatal care. And so we couldn't afford it. Then finally my husband got laid off . . . so we were able to get on state insurance. . . It is just a difficultly for the people who are in middle class with paying insurance - and paying the deductible **-** and not being allowed on state care because they're making too much money. It (prenatal care) would be harder to get into, I guess. . . without the insurance. . . This time I was able to get the insurance which helps even more. No, I haven't had any trouble getting any prenatal care -with none of my pregnancies. The state helped in that position - (What helped) in my position was I got (state Medicaid). And knowing what financial resources and everything that's available. Well, I mean I - my husband works at (company). With his insurance being so high, we decided to try to see if I could get (state Medicaid). before being put on his. That definitely was a big help. Because they've taken care of the expense of, you know, having the baby. . .When I actually started with this pregnancy I had insurance through my work, but since I went part time I lost my insurance, but the transition between that and getting (state Medicaid). wasn't too bad, and the center helped with that.. . . . Yeah, it made it easy. . . - And that shocked us because with my other insurance we were going to end up paying quite a bit, so it was almost kind of a blessing. . . .The deductible that we were going to be paying to do it and everything was going to be almost just as much as it would have been just to come here and have the baby without insurance. For me personally it's pretty easy. It's normally just a funding problem. You know, as far as - we've been able to afford it personally, but, you know, being able to get State help is very nice. . . I would	Insurance	Woman expresses that insurance made it easier to obtain prenatal care

Table 6 Continued

Interview quotes	**Code**	**Definition of code**
say (Medicaid) has been a huge reason why, you know, it's been easier for us. Well, the only thing that is - actually for both this pregnancy and my last pregnancy, prenatal care was actually really easy to get.. . I'm on (State Medicaid) - It was actually really simple. Like I couldn't come to the doctor like the way I do if I had to have my own insurance - if I had to pay for my own insurance and/or have to pay for out-of-pocket I couldn't do it. And then there's the health care issue and making sure that's covered -- and everything, really. Yeah, especially in the (nearby state) region. It was very difficult. There's people that know how to work those things - and I'm just not one of them. Having insurance. Yeah, that definitely helps a lot. . . I mean I have great insurance through work, so financially that helps. I don't have (Medicaid), so it doesn't help that much (meaning having Medicaid would have been easier financially).	Insurance	Woman expresses that insurance made it easier to obtain prenatal care
Here they sit down with me, and they talk to me. We go over every little detail, any questions that I have. I don't feel rushed. So I think with the midwives, they seem to care more in a sense, like they take that time. Other providers, I don't know if it's because they overbook or - they don't care or if it's a man thing and they've never experienced it before and they're just like, "Oh, it's another day," you know. - I think they need to show more care to their patients. . . . But here, they -you know, they really - they're really there with me, and they understand what I'm going through **-** I like that. I just think other providers need to have that special patient/client thing too, like they do here. Like you know everybody that walks in the door. That doctor was not as personalized, you know. In-out. Don't spend no time with me and that was it. Here you get more of a 1-on-1. I went to a doctor in (nearby city) and he - you know, he has a lot of patients. You know, he don't take much time to talk to you. . . But they (the midwives) . . . don't rush through the things. They talk	Compassionate care	Woman expresses that what helps her get care is compassionate staff and providers, personalized attention, and care adjusted to her needs.

Table 6 Continued

Interview quotes	Code	Definition of code
to you, make sure that you, you know, understand what's going on and stuff like that, so I mean I really like it here. I want someone that actually cares and knows what I am goin' through.. . They actually cares and not just doing their job. Actually cares about my health and the baby's health and somebody that actually understands instead of just an appointment, a paycheck. I'm just going to be blunt. Honestly, overall, to feel like I am a human - and to feel like I'm not just another name on a piece of paper to be checked off and - almost like a cattle call kind of thing. You know, I like prenatal care to be when they actually care about - you know, not just how's the baby doing, but how's Mom doing, you know, physically, emotionally, you know. And that to me is really, really important, and that's what I get here. That's why I like it here. Like I like how it's just - they'll sit in there and they'll talk to you about everything that you have questions about, and they're not trying to rush off or leave or anything like that. They'll sit there and actually sit - have a conversation with you about care. Just mainly my best thing about up here is the compassion. They actually care about your pregnancy. You're just not another number on the patient list. You're actually - even if you don't see that midwife that day, they'll stop you in the hallway and talk to you and -They actually care about your pregnancy. And that's what makes it special for me to know that even know they might not be there that day they're still going sit there and ask me about my day. And that's - I don't know. I guess I just like the care **--** that they care about people. . . . I'm not just another person in the waiting room. . . Just give a darn about them. Don't act like they're just another number, because that makes it where you just - you don't even want to go to your appointment. When I had to go to (doctor), I dreaded my appointments. I mean I would try to put them off just to - to not have to go - because it's so impersonal that you just - you don't feel like you're getting that bonding relationship where you trust somebody to deliver your child. We had an OB over in (area) that we went to a couple of times and we didn't like him a lot - because		

Table 6 Continued

Interview quotes	**Code**	**Definition of code**
you were there for maybe what, 5 minutes? And then you were gone. It was just very impersonal. It was more like you were just on this conveyor belt, you know, here's another Mom. Here you can just sit down and you're so relaxed. You can talk to them because you don't feel like you're being rushed. You don't feel like, you know, they're coming in with their white coats and they're little gadgets and they're just ready to go onto the next person. It's more personal too. They don't make everything feel so sterile and, you know, serious. Just take your time with them and just act like you care, even though you see tons of women. Just like, you know - take your time and, you know, just genuinely be interested in how they're feeling and how - like how's everything going and everything		
If I need to call and say, "I need to come in," they're like, "Okay come on over." A lot of places said that the doctors don't see you until 10 weeks - but the (sample clinic) will see you earlier. I want to come after 5 because I work, which is very convenient, which is a big, you know, a big part. I think it's really helpful that they have after 5 appointments, because I do work. (When) I found out I was pregnant I called them because the health department said it was going to be like a 3-week wait and I was like, no, and I called up here and they was like, "Well, we'll get you in. Can you be here in an hour?"	Appointment availability	Woman expresses that the availability of appointments helps her get prenatal care. This code includes decreased wait times for the first appointment and availability of appointment times that meet her schedule.
You know, I've always picked women as far as my midwives just because I think they have a little bit more touch with - you know, a lot of them already have kids or- I mean they're a woman, so they obviously know a little bit more about -I'm not downing male doctors. You know, that's just my preference. My preference with midwives and women, you know, who are women doctors and such just because- I think they're just a little bit more in tuned to helping. I like to know the people that I'm dealing with - for one. I like the female on female. I'm not comfortable with a male looking at my nether regions -unless I have a relationship with them. And so	Female providers	Woman expresses that having all female clinicians helps her get prenatal care.

Table 6 Continued

Interview quotes	Code	Definition of code
most places you can’t find that. There’s always males somewhere in there mixed up. I do like it here because - like it is all women; I do like that, not that it’s that big of a deal for a man - but I do like it that it’s all women		
Let me think. Easier. Well, I live close, so that’s nice in keeping it - so the distance makes it convenient. I guess the only thing is, you know, it’s like having everything in one generalized place, like your ultrasound and everything. But it’s really nice here because almost everything is done here. More locations (clinic offices) would be better.	Location	Statements that the location of the clinic facilitates prenatal care access.
I do have like so many people supporting me at the same time. I have my family members, especially my biggest sister. I’m (living) with her right now, and she gives me all the support I need, like to get through my pregnancy and if I need things she’s there to support me in anything that I need.	Family	Statements that family members, including spouses, helped in getting prenatal care

Table 7: Congruence of Findings with the Theory of Motivation-Ease

	Motivation	Ease
Theory	Internal motivation of the mother to seek care may be related to desire for pregnancy, societal beliefs about the body and need for medical care. Maternal motivation may be affected by interactions with the clinic	Facets of the clinic that facilitate or ease maternal entry into care: location, availability of appointments and services, wait time at the clinic, and hours of operation, staff attitudes, language spoken cost and payment options, needs for care of existing children.
Study Findings	Women reported having increased motivation to go to prenatal visits when they knew they would be treated respectfully, have unrushed time with the provider, and have their questions answered.	Women reported that the availability of insurance, and compassionate care were major facilitators of prenatal care access. Appointment availability was also mentioned as a lesser facilitator. Compassionate care included: sitting, listening, answering questions, caring for the women as individuals

Figure 4. A Theoretical Substruction of Reasons Women Decline CenteringPregnancy Care Using Critical Realism.

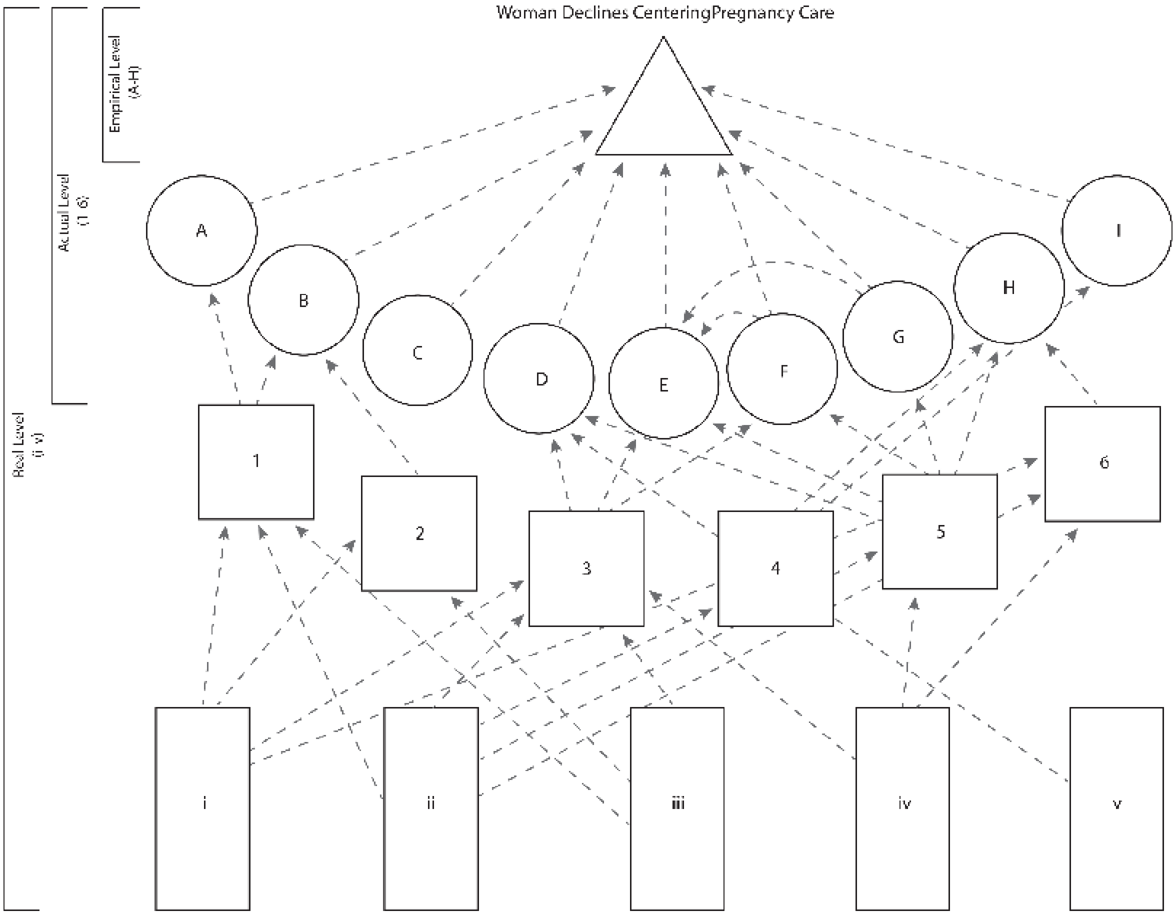
<u>Legend for Figure 4</u>

△ Measureable Event in the Empirical Level of Reality
- The woman declines CenteringPregnancy care

○ Events and Experiences in the Actual Level of Reality
- A –Woman does not like group settings of any type
- B - Woman fears exposure within the group
- C- Woman does not see a need for change
- D –Woman wants partner to be comfortable and involved in care
- E – The group visit time was not compatible with woman’s schedule or needs
- F – Woman did not have transportation at group time
- G –Woman felt her children would be disruptive in group meetings
- H –Woman entered care late in pregnancy
- I – Woman did not know about CenteringPregnancy

□ Superficial Causal Mechanisms in the Real Level of Reality
- 1 – Beliefs about privacy
- 2 – Beliefs about the value of confidentiality in healthcare
- 3 – Lack of public transportation
- 4 – Lack of options for natural birth
- 5 – Financial concerns
- 6 – Lack of affordable childcare or preschool

▯ Deep Causal Mechanisms that Generate Events and Experiences
- i – Individualism
- ii – Rural geography
- iii – Beliefs about sexuality
- iv – Poverty
- v – Gender roles


Woman Declines CenteringPregnancy Care
Empirical Level (A-H)
Actual Level (1-6)
Real Level (i-v)
A
B
C
D
E
F
G
H
I
1
2
3
4
5
6
i
ii
iii
iv
v

Vita

Julia C. Phillippi is a Certified Nurse Midwife who is licensed as a Registered Nurse and Advanced Practice Registered Nurse by the state of Tennessee. She received a Bachelor of Arts from Maryville College in 1996. She then received her Masters of Science in Nursing in Nurse-Midwifery from Vanderbilt University in 1999. She is currently a PhD candidate at the University of Tennessee, Knoxville.

Ms. Phillippi has worked as a nurse-midwife since her graduation from Vanderbilt in 1999, serving as a staff midwife and then Director of Midwifery Services at Women's Wellness & Maternity Center in Madisonville TN. Ms. Phillippi has also worked locum tenens at the Lisa Ross Birth & Women's Center in Knoxville TN. In addition to clinical practice, Ms. Phillippi has served as a clinical preceptor to midwifery students and has taught in various positions at Vanderbilt School of Nursing. She has been a lecturer and an Instructor, and is currently an Assistant Professor of Nursing at Vanderbilt School of Nursing since September of 2010.

She serves on several local and national committees including the Women's Health Competencies Development Committee which is developing competencies for the women's health foci of the APRN Consensus Model, and the American Midwifery Certification Board (AMCB) Continuing Competency Task Force that is updating the requirements to maintain midwifery competencies. She serves as chair of the Basic Competency Section of the American College of Nurse-Midwives (ACNM), which is the committee that sets the competencies for introductory midwifery practice in the United States. As chair of the Basic Competency Section, she sits on the Division of Education of the ACNM. In addition to her interest in midwifery and women's health competencies, she serves on the quality assurance committees of the two birth centers in East Tennessee. In the past, she has served on the American Midwifery Certification Board's Certificate Maintenance Committee and their Quality Assurance Committee.

She has had the opportunity to present at several local and national conferences on a variety of topics. Topics include birth center employment, getting a job in midwifery, Web 2.0 tools for midwives, and educational strategies for nurse-midwifery education. She has presented at annual meetings of the American College of Nurse-Midwives in Seattle WA, Washington DC, and San Antonio TX. She has also presented at the Midwives Alliance of North America conference, the Rural Women's Health Conference, and the research day of the Gamma Chi chapter of Sigma Theta Tau. She has been able to present posters, with various co-presenters, at five conferences throughout the nation.

Ms. Phillippi has eight peer-reviewed publications since completing her MSN, six of which are related to her coursework at the University of Tennessee, Knoxville. Her publications include:

Phillippi, J.C. & Schorn, M.N. (2011) Course Revision: From Unidirectional Knowledge to Dynamic Application. *Journal of Nursing Education, 49(7),* 410-413.

Phillippi, J.C. & Wyatt, T. (2011). Smartphones in Nursing Education. *Computers, Informatics & Nursing, 29(8),* 449-454.

Phillippi, J.C. & Buxton, M. (2010). Web 2.0: Easy tools for busy clinicians. *Journal of Midwifery & Women's Health, 55,* 472-476.

Phillippi, J.C. (2010). Transformative learning in healthcare. *PAACE Journal of Lifelong Learning, 19, 39-54*.

Phillippi, J.C., Alliman, JA, & Bauer, K. (2009). The American Association of Birth Centers: History, membership and current initiatives. *Journal of Midwifery & Women's Health, 54*(5), 387-392.

Phillippi, J.C. (2009). Women's perceptions of access to prenatal care in the United States: A literature review. *Journal of Midwifery & Women's Health*, 54(3), 219-225.

Phillippi, J. (2009). Last Menstrual Period. *Nursing2009, 39(2), 63.*

Phillippi, J. (2007). Does an intrauterine device affect patient care? *Nursing2007, 37*(8), 66.

Cain, J. (1997). The changes in lipid concentration over the duration of one feed in human breast milk. *Bios, 68*, 26-35

She is the co-author of a regular column in the national quarterly newsletter of the ACNM. In addition to writing, she serves as a peer-reviewer for the Journal of Midwifery & Women's Health.

She is a member of several professional and scholarly organizations including Sigma Theta Tau, Phi Kappa Phi, the ACNM, the American Association of Birth Centers, and the Southern Nurses Research Society. She has been thankful to receive funding to support her scholarship including research grants from the Iota and Gamma Chi chapters of Sigma Theta Tau, the Dr. & Mrs. Glenn Watts Sr. Endowed Scholarship, and the W. Newton Long Award from the ACNM Foundation. Awards for her work include the

2007 Excellence in Teaching award from the ACNM Foundation, and the 2005 Kitty Ernst Award from the ACNM Foundation, which is the highest award possible for a CNM certified less than 10 years.