

CENTERING PREGNANCY

An Interdisciplinary Model of Empowerment

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ABSTRACT

This is a time of change within the health care system. This has created a challenge for health care providers to develop creative new patterns that will provide quality service within a system that is mandating more economy and efficiency.

The Centering Pregnancy program abolishes routine prenatal care by bringing women out of examination rooms and into groups for their care. The design incorporates the three components of prenatal care—risk assessment, education, and support—into one entity. Women are placed into groups of 8 to 12 based on estimated dates of delivery and meet for ten 90-minute prenatal or postpartum visits at regular intervals. At these visits, standard prenatal risk assessment is completed within the group setting, an educational format is followed that uses a didactic discussion format, and time is provided for women to talk and share with one another. By incorporating these three components into one whole, emphasis is placed on their collective importance. Women are encouraged to take responsibility for themselves; this leads to a shift in the client-provider power base.

Evaluative data demonstrated that 96% of the women preferred receiving their prenatal care in groups. This model is interdisciplinary in design and demonstrates provider satisfaction, as well as efficiency in delivery of care. It is an excellent model for the care of teens and for midwives and nurse practitioners to lead. The combination of satisfaction, good outcomes, and effective delivery of care makes this an attractive model for agencies to implement. © 1998 by the American College of Nurse-Midwives.

Pregnancy is a time of introspection and transition for most women. It is a time of general good health but also a time of many physical discomforts and emotional fluctuations. It is a time of uncertainty, excitement, worry, energy, and fatigue and of anticipation for birth and speculation about parenting. Women tend to com-

pare notes with other women as pregnancy progresses and to share reactions with their partner. They are open to learning and are eager to know more about the childbearing process and parenting of a new child. Centering Pregnancy capitalizes on all of these behaviors by providing complete prenatal care to women in groups. It brings women out of examination rooms for the majority of their care and into contact with 8 to 12 other women with similar due dates. In this setting, standard prenatal assessment occurs in an atmosphere that encourages free exchange, facilitates learning, and develops mutual support.

Centering Pregnancy unifies the components of prenatal care—risk assessment, education, and support within the group—and encourages women to take responsibility for their own health. The breadth of the discussion ranges from personal discomforts and concerns for the health of the fetus or infant, to larger familial and social issues of relationships, communication, and abuse. As women share their own experiences, a climate of support develops that helps to empower a woman to respond proactively to her situation. In the group setting, the potential for learning and support is multiplied by the resources that the group brings forth under the guidance of the professional care provider. The group setting can deliver a quality of care that is difficult to provide during individual examination room visits. Centering Pregnancy provides an excellent interdisciplinary model within which certified nurse-midwives (CNMs)/certified midwives (CMs)* and nurse practitioners are ideally suited to assume a leadership role.

PRENATAL CARE AND THE LITERATURE

Prenatal care refers to pregnancy-related services that monitor the health status of the woman; provide information to foster optimal health, including good diet and hygiene practices; and provide appropriate psychological and social support (1). Although the content of the prenatal care may vary, usual initiation is in early pregnancy, with an increasing number of visits as pregnancy progresses. "Women who have early and regular prenatal care have healthier babies" (2). Defining an accurate

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*CNMs/CMs and midwives as used herein refer to those midwifery practitioners who are certified by the American College of Nurse-Midwives (ACNM) or the ACNM Certification Council, Inc.; midwifery refers to the profession as practiced in accordance with the standards promulgated by the ACNM.

way to measure the adequacy of prenatal care continues to be a major challenge, especially if the outcome variable used is low birth weight (3,4).

A National Maternal and Infant Health Survey of 9,394 women (5) was used to compare specific procedures and content of prenatal care with outcomes of low birth weight. The study suggested that women who are at greater risk of adverse birth outcomes benefit the most from educational health messages. Women who receive sufficient health behavior information as part of their prenatal care are less likely to deliver low birth weight infants. "The effect of receiving advice remained after adjusting for other known risk factors for low birth weight and the quantity of prenatal care received" (6).

A prospective study ($N = 129$) that examined the effects of prenatal social support on maternal and infant health and well-being demonstrated that women with more prenatal support experienced less stress during pregnancy, reported less substance abuse, had better progress in labor, and delivered babies of higher birth weight and Apgar scores at 5 minutes of life. Also, those who were dissatisfied with their prenatal support were at greater risk for postpartum depression (7).

In a focus group study of 50 low-income women, the women requested education about what to expect during pregnancy and birth. They also wanted to be able to talk with one another and believed that the prenatal visit was one of the few opportunities they had to socialize with other women. "Given the preponderance of evidence that aspects of social support enhance the health of women and infants, public health planners and advocates must identify, enhance, and create opportunities for natural helping networks in communities to support women and infants" (8).

Prenatal care is a complex entity that brings many benefits to the women who participate. It has been hard to prove just which components of care are the most likely to lead to improved outcomes. Nagey (9) suggests that perhaps caring in itself is the most important intangible component. Expressing interest in the woman's concerns, listening well in a nurturing atmosphere, and helping her to use community resources will help her to have as safe and satisfying an outcome as possible. Many of the risk factors that are associated with low birth

weight, such as socioeconomic status, ethnicity, and past obstetric history, are not within the ability of the mother to control. Certain lifestyle behaviors such as smoking and other substance abuse, dietary intake, and weight gain can be modified to have a beneficial effect on outcome (10). Prenatal care can have a significant influence on these behaviors.

In an article entitled "The Need for a New Perspective on Prenatal Care" (11), the author summarizes the highlights of the report of the expert interdisciplinary panel convened by the Public Health Service in 1986 to determine what services will provide the most effective care to pregnant women. The panel, through its evaluation of the literature, found that the content and quality of care have not been sufficiently studied and so made recommendations for care delivery and future research. Their report was published as *Caring For Our Future* (12) and contained many recommendations supportive of redesign of services, including the support for health promotion and psychosocial assessment and intervention as essential to the core of care.

DEVELOPMENT OF THE CENTERING PREGNANCY MODEL

Centering Pregnancy is a group model of prenatal care delivery that places all three components of prenatal care—risk assessment, education, and support—into the group setting. There is considerable literature available that describes and evaluates childbirth and parenting education programs. There are also articles describing support groups and their effect on health and healing. The literature detailing more comprehensive group programs is scarce.

In the 1970s, the Maternity Center Association (MCA) developed a self-care program for their couples titled "Self-Help Education Initiated in Childbirth." Couples were taught self-care skills to enhance their pregnancy as part of their total education program. Another program describes cluster visits that were used by a pediatric nurse practitioner to conduct well-child visits in groups and to include education and discussion (13).

Two other programs involving teen groups and self-care activities have been reported (14,15). One program paired teens and enabled them to do tummy checks on each other, within an overall group format of education and discussion (14). Another study (15) used a similar format but randomly assigned teens to experimental and control groups. One of the outcomes showed a statistically decreased repeat pregnancy rate within the first 2 years following delivery of those in the experimental group (15).

Investigators of another study (16) interviewed British women regarding their priorities for antenatal and infant health services. As a result of their findings, the authors

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reported that routine antenatal visits have been converted to small group sessions for women of similar age and at the same stage in pregnancy. This has encouraged social contact and increased educational input.

In the 1970s, this author was instrumental in developing the Childbearing Childrearing Center at the University of Minnesota, a model that evolved in response to consumer and provider frustration with the traditional model of care. A consumer survey (17) indicated a strong need for personalized care and control. A multidisciplinary team of nurse-midwives, pediatric nurse practitioners, adult health practitioners, and consumer support personnel cared for a population of couples throughout the entire course of childbearing, childrearing, and ongoing women's health care. Couples met with the same group of couples from midpregnancy throughout the first 4 months postpartum. Satisfaction of professionals and consumers was very high and outcome data were excellent (18).

Centering Pregnancy Program

The Centering Pregnancy Program, a group approach to prenatal care, evolved out of the author's familiarity with the literature and the experiences at the Childbearing Childrearing Center. An additional impetus was the author's realization, gained from current midwifery practice, that clients needed increased prenatal education and comprehensive, culturally appropriate care.

Group visits are an entirely different experience from individual visits, for both leaders and participants. In fact, groups help persons achieve goals that would be unattainable by individuals alone. Some specific values of groups include learning from others, community building, attitude change and insight development, mutual support, and problem-solving skill development. Groups are also an effective use of institutional resources.

The development of this model occurred in an East Coast hospital clinic, where a total of 13 groups were studied to determine response to a group program. This population was ethnically diverse and primarily Medicaid eligible; approximately 30 women gave birth each month through this clinic. The pilot program was conducted during a 15-month period with 111 women in 13 groups; 3 of these consisted of teen groups. The average number of women in a group was 8.75, with an overall attendance of 85.9%; 92% in the teen groups.

Program Description

Women enter the system in the traditional manner. Formal intake, including past and present history, physical examination, and laboratory testing, is done at the initial visit before group assignment. Groups are formed by inviting each woman who has registered to join the

group of women scheduled to deliver around her estimated delivery date. The ideal group size is 8 to 12 women. Low-risk women need not enter examination rooms unless further assessment is needed, subsequent vaginal examinations are indicated by agency protocol, or the pregnancy goes beyond 40 weeks. If medically at-risk women are included in the group, they will need to be apprised of the need for additional visits for close monitoring. Billing for the program is done in the same manner as billing for traditional prenatal care.

Ideally, groups are led by a CNM/CM or nurse practitioner skilled in group process. An additional person, a nurse or aide, will facilitate the flow of the group and help with any follow-up necessary. Consistency in leadership is important to provide continuity to the group and ensure comprehensive content presentation. Other professionals who can assist as group leaders include social workers, nutritionists, physical therapists, birthing unit nurses, and parent educators. Partners are encouraged to attend sessions, as are other important support persons such as friends and grandparents. Women need to find child care for these group visits so that they can concentrate on their own needs.

The Centering Pregnancy program is designed for ten, 90-minute sessions that begin when women are between 12 and 16 weeks' gestation and conclude with an early postpartum meeting. Each session is divided into two more formal discussion and education periods, with the prenatal assessment occurring for the first 15–20 minutes and finishing during the midsession break, at which time refreshments are available. Handouts and worksheets facilitate the discussion and are completed during the initial minutes.

Risk Assessment

Risk assessment, or the traditional prenatal assessment, varies depending on the stage of gestation and on the particular needs of the individual. Initial blood work, physical and pelvic examinations, and thorough histories are performed on intake into the system and before entering the group. Within the group, women participate actively in the risk assessment by weighing themselves, taking their blood pressure, determining gestational age, and making appropriate chart entries. Because they have access to their charts, women become familiar with the entries and ask questions about recorded findings. This is a demystifying experience and contributes to a woman's ability to exert more control over her pregnancy and care.

Each woman has individual time with the practitioner to share particular concerns, to review her progress, to measure the fundus, and to listen to the fetal heart tones. This assessment is conducted on the edge of the group either on a mat on the floor, on a table, or in a reclining

chair. A contract for follow-up is made at this time for any issue that involves more privacy for assessment or is too involved for quick resolution.

In the pilot groups, women responded positively to hearing each baby's heart beat and enjoyed the acclamation of others in the group. Observing the physical differences of how women carry their babies was also reassuring, providing information to counteract remarks heard from lay people about carrying too large or too small.

Education

Education is important to understanding and coping with life experiences. One study (20) showed that the effect "of receiving advice remained after adjusting for other known risk factors for low birth weight and the quantity of prenatal care received." The need for more extensive education in the prenatal period has become especially acute with the widespread practice of early discharge, in which mothers leave the birthing unit with only a minimum of teaching and no assurance of home follow-up.

Following are several education components that are developed throughout the 10 sessions; some are strands throughout the program, others are covered in 1 session:

- Early pregnancy concerns including adjustment to pregnancy, fetal development
- Nutrition for pregnancy, lactation, and early infant care
- Exercise for physical and psychological well-being
- Dangers of substance abuse and appropriate referrals
- Preparation for childbirth including relaxation and breathing methods
- Infant feeding with emphasis on breastfeeding
- Baby care, including items needed and early coping techniques
- Parenting techniques and self-esteem building
- Postpartum issues, including contraceptive methods and postpartum depression
- Personal and relationship issues, physical or sexual abuse, sexuality, and communication

Extensive use is made of handouts, worksheets, and videos to supplement the didactic exchange. Session summaries help to ensure assimilation of the material and to assist women who may miss a group session. Emphasis on particular content items is determined partly by the needs of the women and couples in the group, but all topics receive coverage.

Support Activities

Social support is "the indication that one is valued and is an integral part of the group. It is the woman's

self-perception of intimacy, opportunity for nurturance, and the availability of informational, emotional, and material help. Positive social support and self-esteem provide a sense of mastery and reduce feelings of helplessness" (19).

The support component of the program may be the most important, as women with a good support system tend to have more resources to help them solve problems. Support develops naturally as the same group of women and couples meet together over the span of 10 sessions. This "networking" is facilitated by name tags, interviewing, opportunity for formal sharing, and informal conversation over refreshments and during the risk assessment times.

Pregnancy is a bonding experience, a time when women of varied backgrounds will connect in a meaningful way. Support persons can be included in this network also, often finding another who is having similar difficulties in coping with the changes of pregnancy and early parenting.

Women in the pilot program were genuinely concerned about one another, worrying when someone was absent or developed a pregnancy problem. They looked for women who lived in the same neighborhood, occasionally assisting another with transportation or child care. Near the end of the program, they were given the opportunity to exchange names, addresses, and phone numbers and were encouraged to make plans for a reunion outside the agency. Many women developed strong friendships that continued long after the group disbanded.

EVALUATION OF THE PROGRAM

Within 3 months of beginning the pilot program, a decision was made by the clinic staff (which included registered nurses, nursing assistants, a nurse-midwife, nurse practitioner, and an obstetrician) to continue the model. The staff believed that the women were responding very positively to the group approach and that the nurses were finding personal satisfaction in their own participation. Early concerns about having women with high-risk pregnancies in the groups were discussed among the care providers, with the decision simply to add individual risk assessment visits, if needed.

Data were collected on safety outcomes for mother and baby, satisfaction of women and staff, use of the emergency room, and general knowledge of pregnancy health issues. It was hypothesized that women in the program would

- 1) Have pregnancy outcomes at least comparable to the general population
- 2) Show decreased use of the emergency room, especially during the third trimester

- 3) Show evidence of learning
- 4) Indicate satisfaction with the group approach to prenatal care

In addition, it was hypothesized that the staff would indicate satisfaction and personal growth with the program despite many modifications needed to conduct such a program.

Approximately 9 months into the program, a nurse researcher visited the institution and collected descriptive data on several groups through the use of focus groups. These groups included three groups of mothers, clinic nurses, birthing unit nurses, and other professionals interviewed in focus groups. This provided valuable supplementary data to the overall evaluation of the program. The following sections describe results of data collected from clients, staff, and patient records.

Description of Sample

The total pilot program sample was 111 women. Of these women, 28 (25%) were 19 years of age and younger, 12 (11%) were 30 years and older, with the majority, 71 (64%) in their twenties. Sixty-eight percent of the women were having their first baby, 20% their second, and 12% their third or more. Seventy percent of the women began their prenatal care in the first trimester, with only 4% starting at 21 weeks or later.

The gestational age at the time of delivery was less than 36 weeks for two women and 36 weeks for another three. Seventy-seven women (69%) delivered between 37 and 40 weeks, with gestations of 41 weeks or longer for 29 women. Six babies weighed 1,500–2,500 g, nine were more than 4,000 g, and the rest ($n = 96$) weighed between 2,500 and 4,000 g. A more extensive analysis was done on the six low birth weight outcomes. All six women were older than 20 years, began prenatal care before 16 weeks, and gained at least 20 pounds. Two of the women had cesarean births, two were smokers, and one had additional substance abuse. Four of six of the women delivered at 36 weeks or earlier; one of the full-term deliveries was classified as suffering intrauterine growth retardation.

A review of the length of labor shows that 24% of the women had labors of fewer than 6 hours, 55% were 6–14 hours, 15% were 15–24 hours, and 6% were more than 24 hours. Fifty-six percent of the women used no analgesia during labor, although 55% did undergo an epidural. It is important to note that the labor management of these women was conducted by the obstetric residents, not by nurse-midwives.

Fourteen women (12.6%) had cesarean births, compared with 13.5% of the general clinic population. Only one infant (<1%) in the sample had an Apgar score less

TABLE 1
Third Trimester Emergency Room Visits

<i>Client Group</i>	<i>Number (n = 62)</i>	<i>Percentage</i>
Pilot	5	26
Clinic control	14	74
Total	19	100

$\chi^2, P = .001.$

than 7 versus six infants (2%) in the general clinic sample.

One of the outcome research questions postulated that women in the pilot group would make fewer visits to the emergency room by the third trimester. This would be a result of the education and support given through the program. Because this population tended to use the emergency room as a primary care facility, the cost of such visits was significant. A clinic control group was chosen by convenience.

Table 1 presents data that support the hypothesis that the pilot group would show a significant decrease in emergency room visits by the third trimester. Additional studies should be done to determine whether this phenomenon continues with ongoing groups.

On the final evaluation form, women were asked specific questions about the risk assessment component. Ninety-one percent said they were comfortable with the risk assessment occurring in the group, but 24% said they would have preferred to have that aspect done in the clinic. Ninety-eight percent were satisfied with the completeness of the examination. Ninety-three percent approved of having male support people in the group; however, 11% would have preferred that the men leave during the risk assessment. Some of the women's comments included, "It was good to have the guys around; they helped, understood more—like mood changes." "The guys were more embarrassed than we were." "We were so used to it, nothing phased us; they would just leave the room."

The women enjoyed listening to the different babies' heart beats and their comments included: "I think it [listening to the heart beats] was as much of a reassurance to us as it was for each individual mother." "Ok, well Jayne's baby is OK and Ann's and everybody's." Comments about the risk assessment included: "We watched each other grow, everybody loved it. Oh, you're a lot bigger this week." "It gets easier; everyone has the same marks on their bellies." "Once you have a baby you have no modesty anyway!" Women also commented on how much they liked weighing themselves: "I liked how they let you participate in weight taking."

Education Component

The Pregnancy Review Sheet was developed and used as a pretest to ascertain basic knowledge of pregnancy and various reproductive issues. It was administered at the first visit and then again near the end of the program. It was hypothesized that participation in the educational content at each session would lead to learning that could be measured through a tool such as the Pregnancy Review Sheet. That tool was adapted from an existing form, modified by the author, and reviewed for content validity by other practitioners in the setting. It covered content areas of nutrition, substance abuse, infant care and feeding, fertility and contraception, common discomforts, pregnancy assumptions, signs of labor, general female health, and fetal development.

An analysis of the Pregnancy Review Sheet was done by an independent nurse researcher. A sample of 52 women who had completed the sheet on entry and again later in the pregnancy was used for analysis. No effort was made to identify those who may have had language problems with the sheet. Most of the questions were answered correctly 70–75% of the time. The 10 questions missed most frequently on the pretest were compared with the 10 most frequently missed questions on the posttest. They were the same, although their ordinal position shifted.

The program also used two formal evaluation sheets, one at session 6 and one at session 10, to solicit feedback about the program. On the first evaluation sheet, 94% stated that they were learning a lot about prenatal care. One woman wrote, "I like knowing how my baby is doing and learning how to take care of myself to have a healthy baby." Another woman said, "We talked about everything and I learned so much that I didn't know."

Within the focus group data, these comments were recorded: "I learned more than I could ever tell. I read a lot of books. I learned more in group than I could learn in a book." "If someone wouldn't ask a question, someone else would." "I felt prepared to care for the baby—that was the strongest part."

Analysis of the responses to the Pregnancy Review Sheet and the two evaluation sheets was helpful in deciding any revisions to the content or order of the presentations. One result of this analysis was the development of the summary sheets for each session, to reinforce content for women who attended and to help women who missed the session to catch up with the information.

Support Component

Integral to the design of the program was the desire to provide women with an opportunity for social interac-

tion. On the first evaluation sheet, 98% of the women said they enjoyed being with other pregnant women in the group. One commented, "I met a lot of women like me." On the later evaluation sheet, only 4% of the women said they were not interested in getting the group together after delivery. Some commented, "I liked the fact that you meet new people and many have the same questions as you." "I made a lot of friends." "Everyone was nice and friendly; they shared what would go on in their homes as far as the baby."

In one focus group, the following comments were recorded: "You knew you were going to be with people that you knew, who were all going through the same thing. They were just another group of friends." "Or somebody shared the same problem you had, and you thought you were the only one and you'd come to class and say, 'Oh, we have the same problem.'" "It was nice because you knew that there were people who were really concerned."

WHY A CENTERING PREGNANCY PROGRAM?

Centering Pregnancy is a new way of delivering prenatal care. It abolishes most examination room visits and moves women within a group setting for their care. There are several reasons to consider configuring care in this way.

- 1) Pregnancy is a time of affiliation for most women. Although medical and obstetric problems may be present or arise during the pregnancy, usually, this is a time of health for a woman. Indeed, her most pressing concerns often revolve around general health and psychosocial concerns. Discussing these issues in a group helps to normalize the usual concerns of pregnancy. One example is the frequent complaint of lower pelvic pain that often takes a woman to the emergency room for evaluation. By discussing the pelvic structures and especially the round ligaments, women are helped to view this as a probable normal problem of pregnancy.
- 2) It is possible to discuss topics in the group that would be difficult or impossible to deal with in the more limited one-to-one encounter. The scope of the topics covered in the program is much broader and more complete than would be possible on an individual basis. And some topics lend themselves well to a more general discussion. Concerns are frequently raised related to sensitive topics, physical abuse being one. Abused women may deny the problem in a one-on-one visit, cutting off any help the provider could have offered. In the group, however, the concern can be discussed generally with all women gaining meaningful information

and perhaps, as they feel comfortable within the group, disclosing their own situation.

- 3) In this group program, the provider has approximately 15 hours of contact time with each woman throughout the pregnancy. This compares with 10- to 15-minute encounters 8 to 10 times in the traditional pattern. It is possible, therefore, to have a much greater appreciation for the needs of each individual as interaction, body posture, and individual concerns are evaluated. As one woman wrote, "those nurses, they really know you!"
- 4) A scheduling pattern that provides for 8 to 12 women to receive their prenatal visit in a 90-minute time frame should be cost-efficient. Most nurse-midwife providers agree on the efficiency of the model. The program uses conference room space, thus removing care from a possibly overloaded examination room area. In addition, as the program provides for extensive education, the result should be fewer phone calls and emergency room visits and greater confidence in labor and in caring for the newborn.
- 5) Providing care for women in groups rather than individually requires different skills. Although this can be a problem for the providers, it also can energize some who may be feeling "burned out" with traditional care. The group is conducted in a semistructured format that reduces the control of the leader. Each group is different and each session is different, making for new challenges and continuing surprises for the leader. For the midwife who is tired of discussing nutrition again and again during the day, this format provides for that discussion once, with others in the group making their own suggestions. A recent discussion on labor had a woman stating that she thought she was going to die during labor—"I think I'll have a heart attack from the pain." This led into a larger dialogue of pain in labor, with other women admitting that they too were afraid of dying.
- 6) This program can be used as an advertising tool for an agency that desires to increase its census. Any new program can get press coverage, but the best publicity is the word of satisfied consumers. Women enjoy receiving care in this way and quickly spread the word to their friends.
- 7) Centering Pregnancy is a wonderful way for students to learn about prenatal care. As women share what is happening in their lives, a student gets an appreciation for the joys and concerns of pregnancy that would be difficult to obtain in the individual encounters. If time is used after the group to "deprogram," both the leaders and participants benefit from further understanding. It also

is a way for midwives, nurses, and other providers in the setting to enhance their assessment skills.

- 8) Because this program is the prenatal care for the women, the usual systems of billing are used, thus ensuring reimbursement. When establishing new programs, it is important to organize them in such a way that ongoing funding is ensured. Also, managed care companies should find this model to be very attractive in its efficiency and scope.
- 9) This program is equally appropriate for pregnant women alone or for couples. Fathers often feel left out of the prenatal visits because of the usual practice of daytime scheduling. These groups work well in the evening, accommodating both parents who work during the day.

WHAT ARE THE PROBLEMS WITH CENTERING?

- 1) Some of the strengths of the program are also the problems. Many providers, midwives included, are not comfortable with group facilitation. This program is not an education class with set objectives. Although there is guidance for the content for each session, the format is one of discussion, building on comments and concerns voiced by group members. The program can be led by a team: a practitioner for the assessments and a skilled group leader for the discussion. For the first groups, it might be possible to have a "buddy" system, whereby one basically observes and the other leads, with the leadership reversed for the next session. Group leadership courses also could help with skill building.
- 2) This model provides a shift in the individual care paradigm to a group approach to care. This shift can be disconcerting to the practitioner who believes that the individual relationship with the consumer is essential to the provision of quality care. The practitioner may worry that problems may be overlooked or that the consumer will fail to disclose issues of a private nature. In fact, it is important that the practitioner doing the individual evaluations be seasoned and secure in medical and obstetric knowledge and skills. The physical assessments need to be performed quickly but thoroughly in an atmosphere of total focus on the woman. The women, too, need to be encouraged to focus their concerns before this evaluation.
- 3) Conducting groups takes a special kind of space. The room needs to be large enough to accommodate at least 20 people, be carpeted, and ideally, have a video cassette recorder and storage room. This space may not be readily available in private offices except through a waiting room used during nonoffice hours. Suitable space may be available in churches, community centers, or the hospital.

- 4) Scheduling several women at the same time may be a challenge for the computer program. If a woman misses a group session, follow-up will be needed that may include an individual appointment. It is wise to name the groups so that when a woman calls to cancel or reschedule it is easier to accomplish. Because groups start frequently but continue for many months, it is a challenge to keep track of which one is meeting when. A scheduling grid can help with this process.
- 5) There is no good way to incorporate children into a 90-minute group; however, it often is important for older siblings to be included in the pregnancy care. One possibility would be to have the children with their mother for the assessment component and then leave the room to join a play group in an adjoining space. This group could be conducted by a volunteer, students in a child development course, or another creative solution.
- 6) Whenever a new model is being developed, those involved need to be imaginative in its creation. Reorienting thinking from an individual to a group model can be difficult and requires creative, imaginative thinking and design. Centering Pregnancy has a handbook to help with this development, but many of the specifics will need to come from those who are implementing the model.

EVALUATION

As with any model of health care delivery, it is important to have an evaluative process. The outcome objectives selected will evolve from the major purposes of the model. In this case, it is important to evaluate mother and infant birth outcomes, as well as the effectiveness of the model in enhancing empowerment of the mother.

- 1) What are the major health outcomes for the mother and infant? Are they at least comparable to those of the larger community being served? Some specific outcomes could include maternal weight gain, hematocrit, gestational age at delivery, birth weight, Apgar scores, lack of infection, and type of delivery.
- 2) What was the incidence of emergency room visits? Was there a demonstrable decrease among group members?
- 3) What was the satisfaction of consumers and staff with the program? Would the woman want to experience care in the same way during her next pregnancy?
- 4) Is there evidence of increasing self-esteem in the women who participate in this model?
- 5) How do women perceive the social support provided

through the model? Does it enhance their overall sense of well-being?

- 6) Is there evidence of learning? Does this learning result in behavior change?
- 7) Is the model cost-effective? What is its effect on the larger system?
- 8) More longitudinal studies could look at questions of use of the pediatric care system, spacing of pregnancies, postpartum follow-up, and occurrence depression.

At this point, there are at least two funded studies exploring some of these questions. One of the studies is directed toward a teen pregnancy program. Other studies involving randomization are being developed. It will be important to continue to gather data to evaluate these and other critical questions. Tools are being identified and developed to assist in this process.

SUMMARY

Centering Pregnancy is an approach to the care of pregnant women that alters the traditional model by bringing women out of examination rooms for the majority of their care. The woman's involvement in self-care activities, the discussion and education format, the worksheets and handouts, and the sharing among the women all lead to her enhanced sense of empowerment. This, in turn, results in a sharing of power between the provider and the consumer. Although this initially can be unbalancing for the provider who is used to feeling more control, it is liberating to see women become more confident in their own knowledge and take increasing charge of their care.

In addition, the challenge of groups and their unpredictability, coupled with the feeling of efficiency and effectiveness that the provider experiences, leads to renewed vigor for the delivery of prenatal care. Effecting change is always difficult; however, the excitement and enthusiasm engendered by this model are well worth the effort.

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