PREGNANCY AND CHILDBIRTH AMONG THE AMISH

KARLA CAMPANELLA,¹ JILL E. KORBIN²,* and LOUISE ACHESON²

¹School of Medicine, ²Department of Anthropology and ³Department of Family Medicine, Case Western Reserve University, Cleveland, OH 44106-7125, U.S.A.

Abstract—This study examined Amish patterns of perinatal health care utilization from the perspective of Amish women and local health care providers in Geauga County, Ohio. Participant observation and interviews with health care providers and 15 Amish women yielded data on perinatal beliefs and utilization patterns for 76 pregnancies. While local health care providers regard the Amish as suboptimally utilizing prenatal care, this study found a consistent pattern of health seeking behavior. In the absence of symptoms perceived to be serious, Amish women initiated prenatal care earlier for first pregnancies and progressively later with increasing parity. Amish women’s perinatal health care utilization must be seen within the context of barriers of transportation, cost, and child care needs. The Amish do not automatically reject medical technology, but select those aspects that are congruent with and that will support and maintain their way of life. Further, despite outward appearances of homogeneity, Amish women display individual variability in responding to pregnancy and childbirth.

Key words—pregnancy, childbirth, Amish, prenatal care

INTRODUCTION

Pregnancy and childbirth have generated interest in anthropology as universal experiences for women and families that are responded to with a range of cultural beliefs and practices [1, 2]. Attention has been directed, for example, towards medicalization and professionalization of childbirth [3], cultural beliefs and practices influencing health care utilization [4–7], and alternatives to biomedical intervention [2].

While the Amish have been the subject of anthropological interest and investigation [8–10], less attention has been paid to health beliefs and patterns of health care utilization [8, 11]. First person accounts by physicians and midwives who have worked in Amish communities provide much of what is known about Amish beliefs and behaviors related to pregnancy and childbirth [12, 13].

This study examined Amish patterns of perinatal health care utilization in Geauga County, Ohio from the perspective of Amish women and local health care providers. Biomedical health care providers in Geauga County believe that Amish women underutilize professional prenatal care, initiating care late, in the second or third trimesters, and attending few prenatal visits. While most Geauga County Amish women give birth in hospitals, many more than in the non-Amish population utilize alternative sources of care, such as home births and lay midwives [14].

The impetus for this research arose in 1989 when Amish individuals in Geauga County received State of Ohio approval to build a free-standing birth center solely for Amish use. The community-initiated process of securing support and approval for the Amish birth center resulted in much collective and individual discussion of different approaches to pregnancy and childbirth. It also provided a stimulus for area health providers to reexamine their perinatal services in the hope of increasing utilization by the Amish.

ETHNOGRAPHIC BACKGROUND

The Amish settlement in Geauga County, Ohio, with approximately 10,000 members, is the fourth largest Amish settlement in the U.S. [8, 15]. According to 1988 Geauga County birth certificates, 42% (n = 246) of county births were to Amish families. The Amish in Geauga County chose out-of-hospital birth at a higher rate than the national average of 1% [16]. In Geauga County, 14% (n = 35) of all Amish births occurred out-of-hospital. Thirteen of these births occurred in the family’s home and 22 took place at the home of a lay midwife in Pennsylvania. An undetermined number of Amish women travelled to a nearby county to deliver at a birth center serving Amish families, and therefore are not included in Geauga County records [14]. Completed fertility rates among the Amish are 6.8 [17] with a somewhat higher rate of 7.7 in Geauga County [18].

As in other Amish settlements, the unit of community organization is the church district. Each district is autonomously governed by its bishop and contains approximately 20–40 families [8, 15]. Among the 47 church districts in the Geauga settlement, there is variation in practices such as the use of electricity and phones according to the discretion of individual bishops. In addition, there is considerable individual variability among Amish people, despite a public presentation of uniformity in dress and mode of transportation [10, 19]. Despite this variation,
however, all Amish families adhere to an Amish lifestyle. Adult baptism requires all members to publicly claim an Amish life. Those who cannot or will not accept an Amish lifestyle leave the community. In combination with adult baptism, social control mechanisms such as shunning for deviations from accepted Amish behaviors, promote at least outward conformity [8, 10].

METHODOLOGY

A 10-week study was conducted in 1989, employing participant observation, and open-ended and structured interviews with Amish individuals and health care providers. Participant observation involved observing and participating in community activities, including providing transportation for Amish people, observing out-of-hospital practitioners and clinics providing Amish people with health care, and attending community meetings related to the proposed Amish birth center. Open-ended interviews were conducted with health care providers including several public health nurses, an obstetrician, two family doctors, a practice administrator, an uncertified non-Amish lay midwife, and two Amish lay midwives. Structured interviews concerning patterns of perinatal health care utilization were conducted with Amish women.

A sample of Amish mothers was solicited at two immunization clinics and one orthopedic clinic sponsored by the county health department. The senior author (Campanella) approached each Amish woman attending the clinics and asked her to participate. Of the thirty women who initially agreed to participate, half later declined, stating that they were busy or did not wish to discuss pregnancy in the presence of their children. The remaining 15 women were interviewed in their homes using a structured interview guide. Each woman gave signed informed consent before proceeding with the interview.

The average age of the Amish women was 33 and the average number of living children was five. Information was gathered for a total of 76 pregnancies. Two of the women were pregnant at the time of the interview and 11 had children 1 year of age or less. Four of the women had had at least one home birth and one woman was planning a home birth for her current pregnancy.

The women interviewed came from 12 different church districts. All had an eighth grade education and shared an Amish lifestyle. Four of the male household heads were farmers, and the rest were self-employed or factory workers. Four of the families had medical insurance and/or participated in Amish Aid, a community fund for unexpected medical expenses which does not cover routine obstetrics.

RESULTS

The following sections present the findings from interviews with health care providers and Amish individuals.

Sectors of the health care system utilized for perinatal care

Participant observation and open-ended ethnographic interviews with Amish individuals and local health care providers indicated that services were available to and utilized by Amish women through the professional/dominant, folk/alternative, and popular sectors of the health care system [20, 21].

The professional/dominant sector. The professional/dominant sector included an obstetrician, a group practice of family physicians, and public health nurses. All of the physicians were male. Local health care providers reported that many Amish women visit a physician to confirm their pregnancy, but then obtain the rest of their care from another sector. Those who remain with a physician for prenatal care give birth at a local community hospital, usually going home 24 hr after birth, reportedly to reduce costs. All women in the county, including Amish women, who go home 24 hr after delivery are visited by a public health nurse within 2 days. The nurse inquiries about postpartum problems, stresses the need for immunizations, and tests for PKU. Physicians reported that most of their patients return for their 6 week postpartum visit.

Local physicians described a number of ways that they have altered their practices to meet what they regard to be the special needs of Amish women. First, because most Amish families pay for their own health care rather than relying on medical insurance, physicians have had to become conscious of cost. Physicians report that they rely more on clinical judgement and order only the minimum of expensive diagnostic tests. They believe that they must take longer to explain the need for a test before a family will agree to it because of an Amish reluctance to spend money unnecessarily. Further, Amish people do not sue for medical malpractice, decreasing any inclination on the part of health providers to practice defensive medicine by ordering additional tests that add to health care costs.

Second, physicians serving the Amish believe that Amish women tend to seek prenatal care late, in the third trimester or not at all, to minimize cost and inconvenience. In response, local physicians emphasize to the Amish community that they charge a single fee for prenatal care and delivery, regardless of the number of prenatal visits. One physician found resistance to initiating prenatal care at the beginning of pregnancy because Amish women believed that they would automatically be scheduled for appointments every 4 weeks. To address this concern, he stressed the need to begin prenatal care early in the pregnancy and promised his Amish patients not to schedule another appointment for 6-8 weeks unless a problem was indicated.

And third, local health care providers have engaged with the other sectors of the health care system to treat Amish patients. They interact with lay
practitioners and sometimes provide them with equipment. Physicians also may offer free or reduced cost prenatal care to encourage women using lay practitioners to visit a physician prior to giving birth out-of-hospital. In addition, one physician reported that he performed about five home deliveries a year for those women who could not make it to the hospital.

The folk/alternative sector. The folk/alternative sector involves Amish and non-Amish lay midwives. These midwives are all women who have children of their own and learned midwifery through books and apprenticeship to another lay midwife. They deliver babies in their homes or go to the house of laboring women. The three lay midwives interviewed began practicing midwifery at the request of neighbors or family.

The first, an elderly Amish lay midwife (in her 80s) from a nearby county was included in the study because she trained both midwives who currently serve Geauga County, and because she has assisted some of the Geauga County women who have traveled to the Amish birth center she serves. She began practicing when neighbors asked her to be with them while the doctor delivered their babies at home. She became so busy that she built an addition to her home and had women come there for births. She was able to accommodate 5 women at a time and would keep the physicians posted by phone and tell them when it was time to come for the birth. Although an important source of advice in the community, she left prenatal care to physicians.

When this midwife was ready to retire, an Amish bishop approached the state legislature for a permit to build an out-of-hospital birth center to replace her work. It was approved and completed in 1984. A nurse is on duty in the center and calls physicians to come when they are needed. The center serves Amish families, with the gowns, quilts, and some of the furniture was made by members of the Amish community. No woman is allowed to give birth in the center unless she can document that she has received prenatal care. Both physicians and nurses at the center speak the Amish dialect of German. This birth center was the model for the birth center in Geauga County.

The second, an Amish midwife who practices in Geauga County, spent one month apprenticed to the first midwife. She has practiced off and on for 10 years and has attended approximately 40 women in their homes. She requires that women see a physician for at least one prenatal visit to be "approved" for home birth. Women may ask her to attend the birth only a few weeks beforehand. Since the establishment of the Amish Birth Center in Geauga County, this woman has stopped attending home births and now helps to care for mothers and infants also attended by physicians at the birth center.

The third, a non-Amish lay midwife who practices in Pennsylvania, also worked with the first midwife for approximately three years. She was included in the study because each year about 20 women make the two-hour trip to Pennsylvania to give birth. While initially attending women in their own homes, she became so busy that she set up a clinic in her home which can accommodate three women at a time. She performs her own deliveries, but 18 area physicians are on call to provide assistance if needed. Of 130 deliveries, she has transferred four to the local hospital.

This midwife requires women to come to her for at least one prenatal visit to discuss the details of giving birth in her clinic. She prefers to screen for risk factors herself because she feels that physicians are less careful in their screening because they will not be delivering her patients. During the prenatal visit she measures fundal height, listens to the heart beat, and takes the blood pressure. If a woman is close to her due date, the midwife does an internal examination to check for cervical dilation and presentation. She prefers not to deliver breech babies. She expressed concern that her patients do not seem to follow up with a 6 week postpartum physician visit that she encourages them to attend.

All three midwives rely heavily on herbs. They recommend two capsules of red raspberry three times a day throughout pregnancy to "tone up the female organs, strengthen the blood, and make the skin more elastic" [22]. Red raspberry also is recommended for menstrual problems. A "six week mixture" is recommended 6 weeks prior to delivery. It is commercially prepared by a mail order vitamin and herb company [23] and contains wild ginger, lobelia, squawvine, blue cohosh, blessed thistle, red raspberry and false unicorn. Lobelia on a hot towel applied to the perineum and catnip tea are used to relax the mother in labor. Compote tea, vitamin E or brown sugar applied topically are used to help heal vaginal tears. Blue cohosh is used to speed labor. A mixture of mistletoe, shepherd's purse and false unicorn are used to stop hemorrhaging. Eight capsules per day of butcher's broom root are recommended for varicose veins. In addition, prenatal vitamins prescribed by physicians were widely used.

The popular sector. The popular sector that includes individual, family, social network and community beliefs and activities is very powerful within the Amish community. This is due to the strength of the Amish family and preference for self-care [8, 10, 24]. The use of herbs during pregnancy is consistent with Amish use of herbs for illness and health maintenance [24]. Herbs are commonly taken on the advice of other Amish women although they may be prescribed in the folk/alternative sector. The popular sector often holds sway over professional sector advice. As one example, a mother reported that when her last child was born, her mother said that the baby was jaundiced, but the visiting public health nurse said that it was not. After the nurse left, the mother and
grandmother put the baby in a sunny window "to correct the jaundice".

The strength of the popular sector is most clearly seen in the recent successful grassroots movement in the Amish community to build a free-standing birth center. With encouragement from a local physician, who contributed the land for the birth center, a group of elders initiated the effort in response to their concerns about the rising cost of obstetric care. Considering the large size of Amish families, the elders felt that obstetrical bills were putting a strain on community resources. Based on the model of an Amish birth center in another county, the elders felt that care could be provided more economically. They strongly believed that if something was not done, Amish people might start rebelling against the church by using birth control to decrease family size. While there is some controversy as to whether Amish families practice fertility control [17, 25], the use of birth control is prohibited and couples are encouraged to have as many children as possible. The elders also desired a quiet and private birth setting that they believed would be more congruous with an Amish lifestyle. This group of elders motivated the community to raise funds to build the center, which was completed in June, 1990. The administrative board of the birth center, which includes both Amish and non-Amish individuals, requires that all women using the birth center have prenatal care. In community meetings designed to increase support for the birth center, Amish elders emphasized the need to go for prenatal care even if "it does not seem like it is necessary".

Sources of information on pregnancy and childbirth

As indicated in Table 1, when Amish women were asked where they obtained information on pregnancy and childbirth, those providing answers relied primarily on female relatives. Physicians were noted by slightly less than half of the women. Past experience, the advice of friends, and printed information (e.g. books) played lesser roles. Six women provided no answer because they felt that how one knows about pregnancy is obvious and too personal or embarrassing to discuss with an outsider.

In addition to the importance of family, friends and physicians as sources of information on pregnancy and childbirth, 93% (n = 14) stated that they would like more information from the professional sector. When asked how they would like to receive this information, 87% (n = 13) said that they would like it to be in booklet form. Table 2 lists the topics the women would like covered in such booklets. There was substantial interest in medical technology, particularly ultrasound and fetal monitoring.

Health seeking during pregnancy and childbirth

Amish women most often employed a simultaneous pattern of resort during pregnancy and childbirth. During the course of a single pregnancy, for example, a woman might follow recommendations on vitamin and herb use from family and friends, go to a physician for prenatal care, and be delivered out-of-hospital by a midwife. Amish women were asked about health seeking behaviors and beliefs concerning perinatal care.

Prenatal care. The most important factor in determining use of formal prenatal care in either the professional/dominant or folk/alternative sectors was the presence of symptoms perceived to be serious. When asked what influenced their decision about when to begin prenatal care, 73% (n = 11) said that if a woman feels good, there is no reason to begin prenatal care in the first trimester, either with physicians or midwives. Further, 73% (n = 11) also said that if a problem arose, such as bleeding, it was important to see a physician without delay.

The women were also asked about perceived barriers to seeking prenatal care. They were first asked to list barriers to seeking care and then questioned about specific barriers of transportation, cost, and physician gender. As indicated in Table 3, when asked to list problems they faced in obtaining prenatal care, making arrangements for the care of their other children and long waits at the doctor’s office were the primary impediments. Difficulties in scheduling appointments and cost were also barriers.

Table 1. Sources of information on pregnancy and childbirth (n = 9)

<table>
<thead>
<tr>
<th>Source</th>
<th>n</th>
<th>% of women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers and sisters</td>
<td>6</td>
<td>67</td>
</tr>
<tr>
<td>Physician</td>
<td>4</td>
<td>44</td>
</tr>
<tr>
<td>Friends</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Past experience</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Books</td>
<td>2</td>
<td>22</td>
</tr>
</tbody>
</table>

*Women could provide more than one answer.

Table 2. Topics about which additional information desired (n = 15)*

<table>
<thead>
<tr>
<th>Topic</th>
<th>n</th>
<th>% of women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasound</td>
<td>9</td>
<td>60</td>
</tr>
<tr>
<td>Fetal monitoring</td>
<td>5</td>
<td>33</td>
</tr>
<tr>
<td>Stages of labor</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Breathing exercises</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Rh incompatibility</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Colic</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Pain killers</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Contractions</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Caesarian sections</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Exercises after birth</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Varicose veins</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

*Women could provide more than one answer.

Table 3. Barriers to utilization of professional prenatal care (n = 15)*

<table>
<thead>
<tr>
<th>Reason</th>
<th>n</th>
<th>% of women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard to get babysitter</td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td>Long wait in physician office</td>
<td>5</td>
<td>33</td>
</tr>
<tr>
<td>Hard to get an appointment</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>High cost</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>Physician opinion</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Family opinion</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Transportation</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

*Women could provide more than one answer.
Women also mentioned the views of others as influencing prenatal care use. Two women planning out-of-hospital births were reluctant to seek prenatal care from physicians who opposed such births. On the other hand, one woman reported obtaining prenatal care only because her mother insisted. Transportation, which outsiders tend to see as problematic for the Amish who rely on the horse and buggy, was only mentioned once.

However, as indicated in Table 4, when asked specifically about the barriers posed by transportation, cost, and physician gender for themselves and other Amish women, transportation was a more powerful impediment to seeking prenatal care. Seven (47%) said that transportation was a problem for them, and 12 (80%) reported it to be a problem for Amish women in general. Transportation is a particular problem for the Amish because they are forbidden to own and drive automobiles. If a woman does not feel comfortable driving the horse and buggy herself, she has a difficult time getting anywhere during the day when her husband is at work. Bad weather discourages women who usually ‘drive horse and buggy’, as has a perceived increase in buggies being hit by automobiles. Dramatic instances of buggies being hit by automobiles, such as a recent drunk driving incident in a nearby county in which several Amish adults and children were killed, reinforce beliefs about the dangers of driving on roads shared with non-Amish. A woman’s alternative is to ‘hire a taxi’ which means paying a non-Amish neighbor to drive her.

With respect to financial barriers, 8 women (53%) reported that cost was not a problem for them or for Amish women in general. That approximately half of the women did not report cost to be a barrier to seeking care diverges from physician views of Amish financial concerns.

As an additional barrier, health care providers had suggested that standards of modesty in the Amish community would decrease the likelihood of women seeking care from male physicians. Physician gender was reported to be a barrier to seeking care by only 5 (33%) of the women. However, those that stated an opinion about Amish women in general were evenly divided (27%, n = 4), with an additional 47% (n = 7) unsure as to whether it posed a barrier. Women also were asked about prenatal care for each of their pregnancies, resulting in information on 76 pregnancies for these 15 women. Figure 1 indicates that primiparas who perceived no problems began prenatal care at a mean of four months gestation. However, primiparas who experienced symptoms such as severe morning sickness, bleeding, or dizziness, started prenatal care earlier, in the second month on average. In general, with increasing parity, the women sought prenatal care later. After 5 pregnancies, women with no complications began prenatal care in the third trimester. These results contrast with a national study of uncomplicated pregnancies, in which at least three-quarters of women beyond their teenage years began prenatal care in the first trimester [26]. However, national figures also indicate that U.S. women delay initiating prenatal care with increasing parity [27].

Once the women began prenatal care, 77% reported that they maintained the recommended monthly appointment regimen. Information concerning the number of prenatal visits could be recalled for 66 pregnancies. As indicated in Table 5, in 23% (n = 15) of the pregnancies, the mother attended fewer than four prenatal visits, with this pattern more common with increasing parity. In contrast, a recent national study of low risk women planning out-of-hospital births found that only 2.5% attended fewer than four prenatal visits [26].

When data from these pregnancies were divided into out-of-hospital vs hospital births, an interesting pattern emerged. Of 13 pregnancies with a planned out-of-hospital delivery, 85% (n = 11) involved fewer than 4 prenatal visits, while of the 51 pregnancies with a planned hospital delivery, only 4% (n = 2)

<table>
<thead>
<tr>
<th>Pregnancy number</th>
<th>Monthly visits (n = 51)</th>
<th>Less than four visits (n = 15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
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</tr>
<tr>
<td>3</td>
<td>8</td>
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<td>1</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
involved this number of prenatal visits. Information could not be recalled for 4 pregnancies.

Childbirth. Childbirth was perceived by Amish women as potentially serious, and they valued the presence of an experienced and skilled birth attendant. Health-seeking behavior for childbirth was determined by weighing perceived risks and benefits of different options with factors of cost and family resources. Women varied in which sectors they felt were best for childbirth.

All of the women chose a physician-attended hospital birth for their first child; 7 chose an obstetrician and 8 a family doctor. Seventy-three percent (n = 11) reported that the main reason for this initial choice was the influence of family and friends. Five women altered their choice of a professional birth attendant for subsequent births. Four changed from a family doctor to an obstetrician because of concern about complications. One switched from an obstetrician to a family doctor for lower costs.

Ten women had hospital births for all of their children. Table 6 indicates that all of these women were satisfied with hospital births while 70% did not like or were not sure about out-of-hospital births. The women were almost evenly divided on the new birth center, with only one woman reporting that she would not use the birth center.

Five of the women chose out-of-hospital birth for at least one of their children. Two did so out of "curiosity" to see if they would like it, and 3 did so to reduce costs. All 5 women liked out-of-hospital birth settings. Three also liked hospital births. As was the case with the women choosing hospital birth, the women choosing out-of-hospital birth were almost evenly split on their opinion of using the new birth center, with 3 voicing favorable opinions.

During the interviews, the women mentioned positive and negative aspects of birth locations. Hospital births were regarded negatively because of a lack of privacy, being told not to push, getting routine IVs, and high costs. However, the women liked the fact that the hospital provided a sense of safety with facilities for any complication that might arise. Out-of-hospital births were regarded negatively because of fears that complications would arise and because the mother had to resume her duties at home immediately and therefore received little rest. However, Amish women liked out-of-hospital births because of reduced cost, increased comfort and privacy, and a chance for a "more natural birth".

All of the women who chose to give birth in their own or the midwife's home were initially fearful of complications or of not making it to Pennsylvania in time. However, all had a positive attitude towards out-of-hospital birth. It is worth noting that two of the families who had out-of-hospital births attended by the local Amish midwife (without adverse outcomes) said that they would prefer to switch to the birth center because they were still fearful and "plagued by uncertainties" about having complications that might require professional help. The three women who went to Pennsylvania said that they might still undertake the 2-hr trip after the birth center opened just minutes away because they like the lay midwife so much.

The clearest indication of the diversity of opinions about childbirth options is evidenced in reactions to the proposed birth center. As indicated above, women who chose both hospital and out-of-hospital births in the past were almost evenly divided on their inclination to use the birth center. The women who chose hospital birth in the past, but who said they would use the birth center, felt that it would be less expensive, quieter, and more comfortable. Others choosing hospital birth in the past felt that the birth center was too far from the hospital and therefore would not be safe. The women who chose out-of-hospital birth were not necessarily in favor of the birth center. One felt that it would be too structured and not enough like home. Another was uncomfortable with the idea that she would have to be transferred too great a distance to the hospital if she needed a specialist (even though she was planning to drive 2 hr to be attended by the lay midwife in Pennsylvania).

Technology and self-care

Amish women were also asked about their beliefs about and experience with medical technology and self-care in the management of pregnancy and childbirth. The practice of local physicians is to suggest ultrasound and fetal monitoring only for specific diagnostic problems. Seven women (47%) had had at least one ultrasound and 10 (67%) had experienced the use of a fetal heart rate monitor. Area physicians offer analgesia to all women and 9 (60%) had used "pain killers" for at least one delivery.

Table 7 indicates that Amish women did not have an overall disdain for technology. As indicated earlier in Table 2, the women desired additional information on technological options in childbirth. Eighty percent (n = 12) said that they had no opinion of ultrasound, while a few stated that the procedure was uncomfortable. Forty percent (n = 6) were positive about fetal monitoring because they felt that it was informative and useful in preventing complications, but three

<table>
<thead>
<tr>
<th>Birth location</th>
<th>Like</th>
<th>Dislike</th>
<th>Unsure</th>
</tr>
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<tbody>
<tr>
<td>Hospital</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-of-hospital</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Proposed birth center</td>
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<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technology</th>
<th>Like</th>
<th>Dislike</th>
<th>No opinion</th>
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</thead>
<tbody>
<tr>
<td>Ultrasound</td>
<td>1</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Fetal monitor</td>
<td>6</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Analgesia</td>
<td>4</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>AFP testing</td>
<td>1</td>
<td>11</td>
<td>3</td>
</tr>
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</table>
women (20%) did not like fetal monitoring because it “scared” them. Seven women (47%) did not like analgesia. Only one woman was positive about alpha-fetoprotein testing, and 11 (73.3%) disliked it.

With respect to self-care measures, 53% (n = 8) of the women reported self-care involving herbs and mail-order vitamins. These numbers do not accurately reflect the use of herbs since the women only reported herb use when directly asked about it and the research did not include this item until later in the study. The women who reported herb use did so on the advice of relatives or midwives. This is consistent with past literature indicating high use of vitamins and herbs among the Amish [24].

**DISCUSSION**

The findings from this study fall into three major areas. First, Amish beliefs about pregnancy and childbirth, in combination with tangible health care access barriers such as cost, transportation and child care, affect utilization of perinatal care. Second, the Amish do not automatically reject medical technology, but select those aspects that are congruent with and will support and maintain their way of life. And third, despite outward appearances of homogeneity, Amish women display individual variability in responding to pregnancy and childbirth.

First, the findings of the current study suggest that Amish women do not view pregnancy and childbirth as equally requiring medical intervention. Within the domain of Western biomedicine, pregnancy and childbirth are considered a unitary condition, encompassed by the single specialty of obstetrics. Pregnancy is a state of altered health with potential risks requiring medical intervention that is culminated or resolved at childbirth, an event also requiring medical attendance and intervention. While there is an ongoing debate concerning optimal and required levels of prenatal care [28], the association of low birthweight and infant mortality with a lack of prenatal care has resulted in uniform recommendations for frequent prenatal visits, beginning in the first trimester of pregnancy, or even prior to conception [27,29–33]. Most studies documenting this association have focused on impoverished, urban, high-risk groups, but rural groups have also been shown to benefit from early and regular prenatal care [31,34,35].

In medical anthropolgy, the disease–illness distinction has been employed to explain practitioner–patient conflict and lack of adherence to biomedical advice. “‘Disease’ refers to abnormalities in the structure and/or function of organs and organ systems; pathological states whether or not they are culturally recognized; the arena of the biomedical model” [36, p. 264]. “‘Illness’ refers to a person’s perceptions and experiences of certain socially disvalued states including, but not limited to, disease” [36, p. 265]. Pregnancy for these Amish women, in and of itself, is neither a disease nor an illness. Indeed, far from being a “socially disvalued state”, childbirth is the means by which Amish women attain status in their community. By bearing children, Amish women become established in society. Upon meeting, an Amish woman is virtually always asked, “Do you have any children?” Amish families view all children, regardless of congenital or health problems, as gifts from God [9,11].

Pregnancy, then, can be viewed as a normal and valued state, requiring medical intervention only when indicated by an abnormal or problematic condition such as bleeding. In this sense, a sickness model in which “worrisome behavioral and biological signs . . . are given socially recognizable meanings” [36, p. 270] is more appropriate for understanding Amish women’s response to pregnancy. Women translate problematic signs, such as bleeding, into symptoms requiring medical intervention. Amish women go for prenatal care as much as is necessary to secure the attendance of a physician or lay midwife at the birth. With no symptoms, and considering the high fertility of the Amish, to do otherwise would mean that Amish women would spend a major portion of their childbearing years attending monthly prenatal visits.

Further, a major argument for prenatal care is that it reduces low birthweight and related infant mortality. Infant mortality among the Amish is estimated to be below national averages [17], which reinforces Amish women’s experience, and thus their empirical knowledge [37], that pregnancy is generally a non-problematic state.

Prenatal care utilization among the Amish becomes more understandable against this backdrop of beliefs. Amish women’s beliefs about pregnancy, in combination with barriers of transportation, cost, and child care needs, contributed powerfully to patterns of prenatal care utilization. While medical practitioners regarded the Amish as suboptimally utilizing prenatal care by initiating care late in pregnancy and attending few prenatal care visits, this study found a consistent pattern of utilization, based on Amish women’s empirical knowledge [37] about pregnancy. Amish women reported initiating prenatal care earlier for first pregnancies and progressively later with increasing parity as they accrued experience that pregnancy was indeed a nonproblematic state. When there was an indication of a problem, however, these Amish women sought care without delay. Amish women, particularly those of high parity, had many opportunities to learn from experience within and outside the professional health care sector. While Amish women have access to a strong network of social support, they have decreased access to medical services because they live in rural areas and travel by horse and buggy. Because most Amish families do not have medical insurance, the cost of childbirth is a heavy burden.

While Amish women may experience childbirth multiple times, it is a sharply circumscribed event, lasting hours to days. The physical effort and pain
involved in childbirth set it apart from other experiences. Fears of death in childbirth and the pain of labor were critical in the historical movement from childbirth as the domain of women in the home to physician-attended hospital-based childbirth [2, 38]. Amish women know that problems occur for both mother and infant in childbirth. Those interviewed were concerned about safety and desired to be attended by a skilled birth attendant.

During pregnancy, however, women can go about their usual routines. While vitamins and teas are used during pregnancy, including those designed to make labor easier, vitamins and teas are widely used by the Amish [24] and their use during pregnancy is not necessarily a departure from usual practice. The vitamins and teas taken during pregnancy and in preparation for childbirth also are considered useful for menstrual and other female functions.

Further, pregnancy can be a private event among the Amish, whose mode of dress and standards of modesty provide the opportunity for concealing a pregnancy. Since Amish women are less concerned with dieting to lose weight than non-Amish women [24], early weight gain may not necessarily be noticed and/or commented upon by others. Childbirth, however, is more public in that the birthing woman cannot carry on with her normal activities and the resulting infant is the subject of much interest to the family and community to which it will belong.

Second, our findings also indicate that Amish women are not necessarily opposed to technological aspects of childbirth. While this at first seems a contradiction in a population that does not regularly use electricity or automobiles, it is consistent with past research on the Amish. Strict adherence to customs of dress, language, and use of the horse and buggy obscures the fact that the Amish have made many practical and economic accommodations to modern life. Amish people are not opposed to technology merely because it is ‘modern’, but selectively adopt technology congruent with the maintenance of their way of life [10, 18, 19, 39]. Research in other Amish communities has documented that while rejecting tractors because they were perceived as likely to lead to the use of automobiles, the Amish have sometimes been the first in their communities to adopt mechanised agricultural technology [19]. The Amish “can no longer be dismissed as an anachronism” [19, p. 306], but must be viewed as adopting or rejecting technology based on careful group discussion and decision making as to its impact on their way of life [8, 10, 18, 19]. In Geauga County, for example, the Amish do not own cars themselves, but they pay others to drive them. Also, in many church districts, if Amish individuals do not own the building, electricity may be permitted. Thus, it is possible to have electricity in the new birth center because it is owned by an autonomous board consisting of both Amish and non-Amish members.

The Amish more often react to things which directly threaten their lifestyles than they do to initiate change in the status quo [10]. Community movements towards change are usually initiated in response to outside pressures, not in an effort to create new ways to express their cultural beliefs. Approximately 30 years ago, most Amish deliveries in Geauga County were reported to be attended by a physician in the home. A maternal death due to hemorrhage in conjunction with the opening of a community hospital influenced physicians to change to hospital births. The Amish community accepted this switch to hospital births because they preferred the perceived increased safety for both mother and child of a physician-attended birth. It was not until the rising cost of obstetrical services began to threaten their ability to have large families that the community actively sought change by establishing the birth center.

It is not surprising that these Amish women reject alpha-fetoprotein testing while not rejecting fetal monitoring. Alpha-fetoprotein testing identifies, early in pregnancy, birth defects that can be resolved only with pregnancy termination. Fetal monitoring, in contrast, identifies problems that can be responded to during the birth process. Since the Amish prohibit abortion, and since all children are considered gifts from God, alpha-fetoprotein testing makes little sense. Electronic fetal monitoring, however, is perceived as helping to ensure a healthy birth for mother and child and therefore has been accepted by at least some Amish women.

Out-of-hospital birth was an option for Amish women in this community. In this respect, Amish birth choices may be less circumscribed than those of non-Amish. Because practitioners know that they are unlikely to be sued for malpractice, they may feel less constrained to practice defensive medicine and more able to follow the preferences of an Amish woman and her family about where and how to give birth. One might question why, in a society so focused on the home, there is not a greater movement to advocate home birth as a more culturally relevant approach. The answer may be that the choice to advocate instead for a free-standing birth center was pragmatic: local medical practitioners were not supportive of home birth, and a successful birth center existed nearby as a model that could be emulated. The establishment of a free-standing birth center was welcomed by some Amish women as increasing their access to professional expertise, “safety” and convenience paralleling that of the hospital, but at a lower cost.

And third, the findings from our study indicate the latitude afforded Amish women in utilizing health care and the individual variability that exists within this community. Amish women varied in when they went for prenatal care based on the accrued experience of parity, their determinations of the seriousness of symptoms, and economic and geographic constraints.
They also varied in their choices of and opinions about birth location and birth attendant, and in attitudes towards analgesia in childbirth. The outward manifestations of dress, transportation, and avoidance of modern conveniences in Amish culture, that contrast so markedly with their non-Amish neighbors, lead to a stereotype of homogeneity among Amish people. Kraybill [10] has written that the horse and buggy are symbolic of this seeming enigma. On the outside, Amish buggies are remarkably uniform. However, on the inside, there is wide variability permitted. Similarly, in terms of reproduction, Amish women operate under the shared value that they should have many children and not attempt to control their fertility. This does not preclude their making decisions about perinatal care, in which they are permitted a range of choices.

CONCLUDING REMARKS

There are limitations to the current study. The sample size was small, there was a potential bias due to the women who withdrew from the study after their initial consent, and the research was based on retrospective recall and self-report data. Additionally, the study was limited to one Amish settlement with its own history and patterns of perinatal care. Further, birth outcomes are not known. Future studies by one of the authors (Acheson) with a larger sample of Amish women will attempt to confirm the departures from recommended patterns of care for pregnancy and birth seen in this sample, and to determine whether such patterns are associated with birth outcomes. Nevertheless, despite these limitations, this study has implications for the understanding of patterns of perinatal care in a population that is thought to underutilize health care services.

Among the Amish women in our study, economic and logistical barriers to prenatal care utilization cannot be ignored or minimized. The community itself has sought to address these problems through a self-help strategy of establishing its own birth center. These tangible barriers must be understood within the context of Amish cultural constructions of pregnancy and childbirth that promote popular sector care for pregnancy and professional prenatal care mainly for problems and to secure a practitioner to attend the birth. These Amish women did not automatically reject medical technology that could be of assistance in their important reproductive role, but like Amish in other situations, selectively determined what would best meet their individual and cultural needs. And finally, our study of Amish women indicated the need to look beyond the outward manifestations of conformity and homogeneity that appear so marked in contrast to the non-Amish around them.

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