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A Community-Based Participatory Research approach to explore community perceptions of the quality of maternal-newborn health services in the Dominican Republic

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INTRODUCTION

The constraints of limited resources have not diminished the global intention in public health to improve quality healthcare services. The US federal Agency for Healthcare Research and Quality (AHRQ) defines quality health care as “doing the right thing at the right time in the right way for the right person and having the best results possible” (Agency for Healthcare Research and Quality [AHRQ], 2001, p. 4). In areas of the world where both maternal-newborn mortality and morbidity are high, maternal health services that function in this way could significantly reduce the annual 530,000 maternal deaths globally and achieve the World Health Organization’s (WHO) Millennium Development Goals (MDGs) 4 and 5 (World Health Organization [WHO], 2005).

Since the launching of the WHO’s *Safe Motherhood Initiative* in 1987, considerable resources have been devoted to augmenting the capacity of skilled birth attendants to provide basic obstetric care (WHO, 1997). The reasons for the lack of progress in reducing maternal mortality have been a topic of extensive debate (Shiffman & Smith, 2007). Currently, the WHO ranks maternal and newborn care as a high global priority for patient safety research (WHO, 2009).

The overall literature on quality of care in the developing world is discouraging. Reports from Brazil, Tanzania, Mexico, Kenya, Ecuador, and the Dominican Republic describe care that is inadequate with respect to standards and guidelines, gaps in provider knowledge, overmedicalization of normal pregnancy and poor management of women with complications. Providers have demonstrated disrespectful attitudes towards patients as well as compassion fatigue (Harvey, et al. 2007; Barber, 2006; Barros, et al., 2003; Boller, et al., 2003; Miller, et al., 2003). It is worth noting, however, that there are also reports of achievements in quality of care focused on reduction of disparities and structural efforts to increase skilled birth attendance (Clapham, et al., 2004; Liljestrand & Pathmanathan, 2004).

Additionally, researchers and policy makers have increasingly realized the importance of women’s perceptions of quality care. In an anthropologically based quality of care study, indigenous Mayan women in Guatemala expressed fear and frustration of not being attended to by healthcare personnel, feelings of powerlessness, and an overall lack of trust in staff

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competence (Berry, 2008). From Nigeria, Fawole et al. (2008) emphasized that client perceptions of quality of care influence their health behaviors, including utilization and compliance with services. Moreover, quality of maternity care in other parts of Africa report examples of disrespectful treatment, as well as inefficient, ineffective, or simply poor medical care (El-Nemer, Downe, & Small, 2006; D'Ambruoso, Abbey, & Hussein, 2005).

In the *Making Pregnancy Safer* (MPS) initiative, the WHO has noted that access and utilization of quality health services to achieve maternal and newborn health require significant behavioral change on behalf of *both* consumers and providers of maternal health services. Consumers need to develop capacities to stay healthy, make healthy decisions, and respond to obstetric and neonatal emergencies. They also need increased awareness of their rights, needs and potential problems related to maternal and newborn health (Safdar et al., 2002). Providers need to improve the quality of their services, as well as strengthen the linkages for social support with health systems and their interactions with women, men, families and communities (WHO, 2003). Furthermore, the MPS initiative has emphasized that education processes for individuals, families and communities should be oriented to *create* knowledge, not deliver it (WHO, 2003, emphasis added).

This article reports on a community-based participatory research (CBPR) study conducted in the Dominican Republic. The Dominican Republic is a Caribbean country that shares its border with Haiti on the island of Hispaniola. There are over 9 million inhabitants and nearly half (45%) live under the national poverty line (CIA, 2009). Although classified as a Middle Income Country in 2010 by the World Bank (World Bank, 2010), income inequalities continue to plague the country, with two-fifths of the GNP going towards the richest 10%, and less than one-fifth going towards the poorest half (CIA, 2009). While 97% of births occur in health facilities, a lack of healthcare quality has been reported (Miller et al., 2003). The maternal mortality ratio (150–160 maternal deaths per 100,000 live births) and the infant mortality rate (22 infant deaths per 1,000 live births) remain higher than one would expect, given the well-developed public health infrastructure and almost universal institutionalized births (PAHO, 2007).

For readers unfamiliar with CBPR, it is an approach that joins community representatives and academically trained researchers in a process of collaborative research that is intended to invoke action or behavioral change. CBPR involves community members in all aspects of the research, from the initial question to data collection, analysis, and dissemination (Minkler & Wallerstein, 2008). The US AHRQ defines CBPR as, “a collaborative approach to research that combines methods of inquiry with community capacity-building strategies to bridge the gap between knowledge produced through research and what is practiced in communities to improve health” (Viswanathan et al., 2004, p. v).

The theoretical framework underlying CBPR is the process of conscientization, articulated by Paulo Freire (2000). As an adult educator of illiterate people, Freire observed that impoverished or marginalized persons who engage in naming and reflecting upon their own social condition become empowered to change it. Given that disparities in the health of mothers and babies are concentrated within the most impoverished and disenfranchised populations, the CBPR approach is relevant to improve participation of communities in improving maternal-newborn health, as well as encouraging their involvement in the health systems designed to serve them.

One critical tenet in CBPR's efficacy is that the community must formulate the research question (Foster & Stanek, 2007; Mosavel, et al., 2005). This study was one of the outcomes of a continuing international partnership between US midwives (one trained in medical anthropology) and Dominican nurses that was initiated in 2003. Earlier activities of the partnership have been reported elsewhere (Foster, 2009; Foster & Heath, 2007; Foster et al.,

2006; Foster et al., 2005). Following an increase in maternal mortality cases within a six month period, the Dominican nurses identified delays in accessing care for complications as a factor contributing to maternal deaths. The research question emerged from this concern: why did women with obstetric complications delay arrival at the hospital until they were in such deteriorated condition(s) that the hospital could do little to help them? There was a perception among the Dominican nurses that women delayed accessing care because they held beliefs and attitudes regarding obstetric care that caused them to delay seeking help.

One objective of the study was to gain a deeper understanding of women's and men's beliefs, attitudes and behaviors towards the maternity services in the hospital where women delivered to help understand why women in the Dominican Republic with obstetric complications delay care essential to their survival. CBPR was the methodology selected for this research based on the premise that the maternal healthcare providers, researchers and community members, by working together to jointly understand the community's experience of maternity care, could then unite to improve it. The mechanism of alliance for change was the research process itself.

METHODS

Community Based Participatory Research

The Provincial Medical Public Health Director from the Secretariat of Public Health and Social Assistance (SESPAS) suggested 4 neighborhoods that the regional hospital served, for geographic representativeness, high socioeconomic vulnerability, and feasibility for conduct of the study. The study was conducted in Spanish, with English translations done by the PI or bilingual research assistants. A ten- person research team was assembled, including 3 academically trained researchers (2 US nurse-midwives and 1 Dominican nursing professor), two Dominican maternity nurses most interested in research from the partnership hospital, and four community leaders (one from each research neighborhood). Three US student research assistants rotated over the course of the project as well (Table 1).

The Dominican nurses and nursing professor recruited the community members for the team at the initiation of the study. The inclusion criteria for the community members were: 1) established and verified as a non-politically elected leader in their neighborhood; 2) willingness to commit to the team for the two-year study duration; 3) high school completion; and 4) honesty and reliability. The complete research team attended 40 hours of orientation to the general research process, including an orientation to the study's specific design. They also attended didactic and practical training in focus groups and interviews.

Ethics

Orientation included a one-day online research ethics training and certification program in Spanish from Family Health International (Family Health International, 2005). This was particularly challenging and rewarding because none of the community members had ever used a computer before; nonetheless, all successfully passed the certification. The study was approved by the Institutional Review Board of the PI's university, as well as the Ethics Committee of the partnership hospital.

Participants

Adult women (21–49 years of age), adolescent women (15–20 years of age), and adult men (>19 years of age) from four neighborhoods in the third largest city in the Dominican Republic were recruited. Eligible women, approximately 12 adult and 12 adolescent women per neighborhood, who had given birth in the public hospital, were systematically recruited from every third house. Men, approximately 12 per neighborhood, were recruited via snowball sampling if they had experienced the loss of a family member (spouse, daughter, etc.) during

childbirth or an infant within a month of childbirth in the public hospital system. This method was used for the men to ensure a sample that included experience with maternal-newborn mortality. High maternal mortality ratios for nations are still relatively rare personal events in communities, and purposive sampling garnered a richer set of experiences in response to the primary research question posed by the Dominican nurses.

Additionally, a cohort of 12 pregnant women (three from each neighborhood) planning to deliver in the public hospital was recruited from the focus groups or community to be prospectively monitored and accompanied to prenatal visits. Participant observations were conducted with 15 women during a total of 44 prenatal visits. Three women did not complete the study and were replaced; one participant had a miscarriage and two women moved away during the pregnancy. Two additional participants were initially recruited for the observation cohort but were replaced because they were in their third trimester and lacked sufficient time for observation. Inclusion criteria were: age 15–49 years of age, registered for prenatal care, and planning to deliver at the public hospital.

A total of 137 participants were recruited, 27 men, 51 adolescent women, and 59 adult women. In addition to the five participants who did not complete the participant observation (described above), two people were removed from the study when it was discovered they were ineligible (a primigravida at a focus group and a woman who did not live in the neighborhood) and 16 did not attend their scheduled focus group for a total attrition of 17% (N=23). The mean age for adolescent women was 18 years [range 15–20 years], mean age for adult women was 32 years [range 21–48 years], and mean age for adult men was 37 years [range 19–64 years]. In the participant observation cohort, there were six adolescent women, mean age 16 years [range 15–19 years] and nine adult women, mean age 24 years [range 21–32 years]. The mean highest number of years of education completed for all three groups (adolescent women, adult women and adult men) was 8 years [range 1–17 years], the mean number of people living in the household was 4 [range 1–11], the men were more likely to work (95% vs. 30% and 28% in the adolescent and adult women groups, respectively), and the mean monthly household income (in US dollar equivalents) was \$146 USD [range \$0–\$588] (Table 2). Informed consent was obtained for all eligible, recruited participants.

Twelve focus groups were conducted, one each in the four neighborhoods for adult women, adolescent women, and adult men. In addition to the focus groups, more in-depth, individual interviews were conducted with 12 focus group women (approximately 3 from each neighborhood) who had described experiences of loss and particular difficulty with maternity health services. These occurred after the focus groups, either immediately or within the week.

Data Collection

Demographics were collected on all participants including age, highest level of education attained, monthly household income, occupation of the participant and his/her spouse, and number of people living within the home. A self-report obstetric history including number and date of pregnancies, birth method, and any complications including infant death was also collected (Table 1 and Table 2).

In each focus group, participants were asked open-ended questions to ascertain their attitudes, beliefs, and behaviors surrounding pregnancy and prenatal and obstetric care received in the public hospital system. The groups were recorded and transcribed by a native Dominican speaker. Audiotapes were listened to and episodically compared to the transcriptions for verification and fidelity purposes.

A parallel arm of the study was the participant observation. Community leaders accompanied the women to prenatal appointments, but remained in the waiting room for anonymity. They

documented the length and mode of travel to appointments, wait times (recorded for provider, nurse and occasionally lab visits), prenatal instructions and education witnessed while in the waiting room or reported by the woman, the condition of the physical space, and participants' observations and comments. After delivery, the research nurses collected participants' birth accounts of ten of the births.

Analysis

The research team received 16 hours of didactic and practical training in basic qualitative descriptive analysis of content (Sandelowski, 2000). The practical training involved giving the team transcribed data unrelated to the project to read and make codes. Later, as a whole group, the research team read and coded copies of the de-identified, transcribed text. The Dominican nurses on the team were much more self-confident about the process of making codes than the community leaders, who tended to be silent in the presence of the nurses during this process of analysis. Therefore, the team was separated into sub groups, the nursing team and the community leader team. The nurses and community leader subgroups coded the first section in different rooms and then met together as a whole to discuss their agreement on coding the text. Once the groups had finished coding the first text, the whole research team read through the text together aloud and discussed the codes they had assigned, forming an initial code list with definitions (Table 4). Using this same structure of reading and re-reading text in subgroups, the Dominican research team read and re-read the text, consolidated codes, and discussed and identified central themes, prioritizing those that captured the most significant meaning of the transcribed text. This process did not involve any computerized software, since the community leaders had no experience using computers. The coding and naming of themes from the codes occurred in multiple weekly meetings over four months.

The community leaders invited all of the research participants, along with many other members of each neighborhood to a public presentation created and presented by the Dominican nurses and community leaders, with guidance and assistance from the US researchers. Each presentation concluded with the question if the findings accurately represented the experience of the community. This was a planned step in the analytic process to ensure trustworthiness of the data.

Study Limitations

Although the trustworthiness of the data was enhanced by the longstanding collaborative relationship between the US and Dominican nurse researchers (who have observed care in the hospital over the course of more than six years), one must always acknowledge that focus group and interview participants may be influenced by a desire to tell the researchers what they believe researchers expect to hear. Also, while the sampling framework was systematic, no claim is made that the women and adolescent findings presented in this study are representative of the entire population, especially the rural women within the hospital catchment area. Also it is important to remember that the male groups were recruited purposively to explore experiences with maternal or newborn death; thus negative attitudes would be more likely in that group.

There were methodological challenges with the research team, as well as interpretive differences between the community members and the nurses. These differences are crucial to advance what is known about the community's role in CBPR analysis (Cashman et al., 2008), but this will be reported elsewhere, as it is beyond the scope of this paper.

FINDINGS

Beliefs: The team defined beliefs as, "what is true for a person, usually in these texts something not recognized as true by the healthcare system." Several beliefs surfaced during the interviews regarding food, risk, mood, and sexuality. Although disputed by some as an old wives' tale,

the *guanábana* (a type of fruit unique to the Caribbean) was generally understood as one to avoid during pregnancy, because as one member of a woman's focus group said, "*They say that it can give you an eclamptic seizure, that it can produce or provoke it.*" Other ideas about limiting bathing in pregnancy were mentioned, although many felt this idea was passé.

The idea that each pregnancy is a time of high risk, fragility and vulnerability was articulated across all neighborhoods, and men felt it was their special responsibility to take care of women, especially when pregnant. For example, one male focus group member said, "*I find that all women who are pregnant are very beautiful and one must always protect [her] as much as he can, because it is the period where the woman is the most fragile, and anything can harm her.*"

Women and adolescents spoke of the need to maintain an even and positive temperament during pregnancy, neither angry nor depressed. The responsibility of women, *no coger mala sangre*, (Eng. "do not pick up bad blood") means that pregnant women should maintain a positive affect, or else they could cause their baby to develop a temperament of similar negative emotions.

Women openly discussed their sense of the importance of active sexual activity during pregnancy. For example, a vagina that had been stretched would make for an easier delivery. As one woman stated in the focus group: "*We all agree, it is important to have relations (sexual), even the doctors say so, so that you can have a better birth, because [with] having sexual relations more frequently you can have a normal birth [instead of] a Cesarean.*"

There were also beliefs about routines in the hospital: it was possible that babies could be mixed up and families given the wrong baby; that sedatives were given after surgery to keep women from speaking; and that spontaneous abortions needing dilation and curettage were not spontaneous abortions, but really covert induced abortions (illegal in the Dominican Republic).

Attitudes: There was general agreement across groups that hospital maternity procedures induced fear, specifically vaginal examinations and urinary catheterizations. Beyond fear of specific procedures, there was greater fear and uneasiness expressed that one would be left alone to deliver, either unattended, or attended by someone who did not respect them or made them feel insignificant. (*Sp. no me hace caso; Eng. they pay no attention to me*). *No me hace caso* included long waits for services, failure to acknowledge individual's or family's history, symptoms, or knowledge, care from students without supervision, a lack of communication, and a system of *cuña*, or preferential treatment for personal connections, as described below.

In one case a mother felt greatly saddened by the medical decision to perform a Cesarean against her will, since she did not feel she was due to deliver, and reported no abnormal symptoms except spotting. She reported that her infant died a few hours after delivery due to prematurity:

I had a normal pregnancy ... I went one day to a prenatal visit and the doctor there told the nurse, "Send her upstairs [labor and delivery area] ... she is going to give birth." I said no ... but I let myself go along because she was my doctor, she is the one who knows ... I never thought they would do surgery; I have always had normal births. The nurse shaved me but I kept saying it wasn't the right time ... I was a little before my eighth month. They sent me for a sonogram and ... the baby looked fine. When I gave the sonogram (results) to the doctor, she said, "This woman needs surgery because she is bleeding," but I was bleeding from the nurse's exam... I didn't have any centimeters (her cervix was closed) ... they took me into surgery and did the Cesarean and the baby died a few hours later... he died from asphyxia. (Adult woman focus group member)

One of the adolescents described elevated blood pressure in her pregnancy that the physicians were monitoring, along with her platelet count. She recounted what she told her physician:

After that, I did not feel the baby move, and I told the doctors, “Look, Doctor, I do not feel the baby,” and they said,

“No, this baby is alright,” and I said,

“No, I do not feel it,” as a mother feels her children...they did not believe me, they did not want to attend to me...the next day, I got some really big fevers, my feet turned purple, my hands, purple; a fever that I was shaking. The next day, the fever left, and I said to the doctor, “Look, Doctor, I feel such and such, in this way,” and... he did not believe me, he severely thought I was playing...and they did not want to take me seriously. I have a friend of a nurse who is a friend of my mother [who] spoke with the Director of the hospital, and that way, they did the Cesarean. (Adolescent individual interview)

Attitudes coded as negligence were reported both on the part of consumers and providers of services. A man expressed concern that a pregnant woman he knew who was bleeding refused to seek medical care and died; the team coded this passage as negligence on her part.

Waiting was a common experience; participants reported waiting in the Emergency Department for admittance, for an ultrasound, for laboratory results, for the doctor to arrive at the ambulatory clinic, and long delays before medical staff provided any treatment at all. Prolonged waiting was associated with the fear of being ignored or unattended. Participants described being sent home after a long wait because the doctor had left the clinic or being told nothing was wrong and subsequently having an emergency Cesarean:

Mine was a complicated case, because I was admitted on the 15th of December, and on the 23rd, I didn't feel the baby moving... And I would tell the doctor, the baby isn't moving any more... the days passed and it was the 28th, I had an ultrasound and the baby already was 42 weeks and the doctor said it was still fine; I could have a normal birth. On the 29th ... I had a fever that I thought I would die, a tremendous fever, and on the 30th they did an emergency Cesarean because of the time... the baby had pooped in my belly. He was born completely dead, and for ten minutes he did not do anything, the umbilical cord was tangled. He was born very ill, but God gave us the victory... and he is well now. (Adolescent focus group member)

Individually, an adolescent confided:

My opinion is that when one arrives [to the hospital] in pain, if one is ready to give birth, that they attend to you right away. Because a friend of mine went three times to the hospital and they said no. That she was not ready to give birth, and she had more and more pain, and when she finally could not stand it anymore, the baby girl was born dead; they let her die. Thank God that did not happen to me, and there are many women that happened to. The best thing would be if one already has 5 centimeters or one is not going to give birth normally, that is, with Cesarean, that they attend her right away, that they attend her well, that they check her.

An adolescent focus group member stated:

I was about 6 months pregnant and when I took my lab results (to the doctor I had very high blood pressure and high blood sugar also. But the girl there (referring to the provider) was a student that they had in the hospital and I told her, “Look at my lab results.” She said it was fine and didn't give me any medication. Then I went around my eighth month with a headache that would not go away. When I saw the doctor he told me my blood sugar was very high, it was 370 and my blood pressure

was extremely high... He said I needed an urgent Cesarean and when they did the Cesarean, the baby was dead because my blood pressure and my blood sugar were too high.

Because of an absence of communication, male family members especially felt ignored and impotent in carrying out their responsibilities to care for their wives and family members who they saw as needing their help:

They don't give you a lot of attention in the hospital, I was alone, I didn't have any family that would help me, I didn't have any experience. The doctors sent me outside, and I am the only family that she has at her side and they sent me outside. (Male focus group member)

Similarly, a male interviewed individually explained:

Well, my wife was pregnant...they told her she was nine months and like, ten days. They sent her for an emergency ultrasound. They admitted her but they did not say why, neither she or I knew why...that was like eight in the morning...at three in the afternoon they put the Pitocin injection so she could give birth. When she gave birth the baby was dead, already almost disfigured...at first I was happy when I thought he would be born, but after they told me he was dead, it breaks my heart...they did not give me any explanation...they are brutes, you ask for an explanation and they order you to one side, 'I am busy, or 'Go over here', or 'go over there, downstairs'... (Individual male interview)

The strategy to circumvent being ignored was to cultivate *cuña*. *Cuña* is a social connection between individuals, created by family ties or personal relationship. The way to receive quality care is to have social connections with people who are known in the health care system. As one male focus group member stated, “*Here you have cuña, you are friends of the doctor or the nurse in the hospital, well, those people get different treatment. But the person that doesn't have anyone in there, they get another treatment.*”

An elder male focus group member commented:

[The situation in the past] is not like today when science is a little more advanced than before. In that time, one went to midwives and one felt more secure... I do not know what has happened. There is more intelligence, and science is more advanced, but there is little service, because everyone is free to do whatever they want. I see that every step of the way in the hospital.

Participant Observations

The results of the prenatal visit observations confirmed the spoken accounts, for example demonstrating long wait times and poor communication systems, which were interpreted by the participants as a lack of respect. One of the key themes identified from the data by both community members and nurses was the amount of time necessary for not only appointments and procedures, but also simply waiting. Although observed travel times were relatively brief, averaging 20 minutes, women were required to travel to the outpatient site to request a prenatal appointment. No system exists to make appointments over the phone. Average wait time to see a provider was 95 minutes, and did not vary between an initial prenatal visit and subsequent visits. As described in focus groups, waiting for care at the ambulatory clinic was a common part of the participant experience:

You have to be early for prenatal visits because there is a limited number of tickets, so you have to more or less arrive at 5 o'clock in the morning to be able to get one. But the doctor comes at 8:30. If you get a lower number, you get out earlier; but you

will be there about three hours... Because sometimes it is a little after eight or almost nine when they start. (Comment of participant to research observer)

In 18% of the observed visits (N=44), nurses gave prenatal education presentations (*Sp. charlas*) while women waited, on topics including care during pregnancy, breastfeeding and infant care, family planning, and HIV prevention. Less than half of the women being observed reported any physician instructions or education, while half received instructions to either take medications or obtain diagnostic testing. Women saw a different physician at each visit.

The research nurses recorded birth stories for ten of the participants. Two women had primary Cesareans, six had repeat Cesareans and two had uncomplicated vaginal deliveries. The participants reported long wait times in the hospital, especially for patients having a scheduled repeat Cesarean. Although some repeat Cesareans are scheduled in advance, none were scheduled in our sample. Women generally were sent to the hospital from the clinic at the 39th or 40th week visit. No anticipatory guidance was given regarding the date of their Cesareans, resulting in the need for last-minute childcare and household arrangements. Typically, women waited 24 hours for surgery upon admittance, but several of our participants waited longer.

Ongoing Community Involvement

Member Checking—Not only to ensure the trustworthiness of the research process but also to exhibit responsibility to the community in CBPR, the team presented their analysis of the most significant themes back to the neighborhoods where the data was collected, before any other dissemination was prepared. Organized by the Dominican team members, these presentations were given at community meetings in each neighborhood with a range of 26 – 76 persons in attendance, and included the research participants as well as other community members.

In each neighborhood, there was unequivocal agreement that these themes did indeed represent their experience, and individual community members eagerly added their own particular examples. Community members wanting to be involved both in the research during its dissemination and in creating solutions to the identified problems left contact information. A joint meeting was held for these volunteers from all four neighborhoods to link with the community research team and each other as the dissemination phase evolved. Following the community presentations, six of the original 15 volunteers felt strongly that they wished to volunteer to continue meeting with the research team to help devise solutions to problems identified in the research. These community health volunteers expressed an interest in accompanying the research team during dissemination of their findings throughout the Dominican public health system. At the time of this writing, they have held over a dozen monthly meetings.

Amidst growing community involvement, how did the health providers perceive the findings? The following excerpt is from the PI's field notes after the findings were presented to them (January 11, 2010):

The team created a presentation for the hospital nurses and doctors to summarize the research and invite them to join the community volunteers. The key in the dissemination process is to not place blame, but to inform the health providers of the community's perceptions and to come together to make improvements. At first, the hospital staff was defensive and some denied the claims presented. Yet when the Provincial Director spoke up and exhorted the community volunteers to work with him on examining the hospital budget to advocate for more supplies, the tone of the hospital staff shifted. By the end of the presentation, eight hospital volunteers had signed on to work together with the community volunteers to articulate how they

might work together to improve services. It was a fragile beginning, but a new beginning nonetheless.

DISCUSSION

Most (but not all) of the community's narratives in this study, as well as the participant observation data, indicate the community's dissatisfaction with the quality of maternity care, indicating major gaps in the efficacy and the humanity of services. Results from the self-reported participant obstetric histories also indicate that serious newborn complications are common within the maternal health system of the Dominican Republic (Table 3). The findings of this study confirm other reports cited above in the maternity quality literature in the developing world. Reports that only present a litany of complaints only serves to pin blame on health workers who are themselves working long hours under adverse conditions (Foster, 2009;Leinweber & Rowe, 2006).

What this study illustrates in a new way is that both community members and health providers can come to know one another as researchers and team members that subvert historical social relationships of domination and subordination. Nursing and midwifery have described this way of relating as partnership and accompaniment (Jonsdottir, Litchfield, & Pharris, 2004; Hunter, 2002). Nurses and midwives play a significant role in empowering families and communities through community cooperation and support, as well as health promotion (Tlebere, et al., 2007). Research by nurses and midwives about the community's experience of maternity care can serve to support these providers to fulfill that role.

Anthropologists have long known the transformative power of the ethnographic experience by the mere activity of "being there" with others (Geertz, 1988). Dr. Jim Kim, anthropologist, physician, and former advisor to the WHO, has commented that anthropologists have a long history of providing "moral witness to human suffering." What is needed now, he argued, is "moral witness to human possibility" (Presentation at the 106th Annual Meeting of the American Anthropological Association, Washington, DC, November 29, 2007).

The research team of community members and health providers came to know each other in new ways by working together on a common mission. As a result of this study, they continue to meet together regularly with hospital and community volunteers to articulate how to implement improvements in the maternity setting. Some of the suggestions from the volunteers included creating a community office in the hospital that persons can go to if they have a complaint about maternal health services. Another suggestion was to invite the doctors or the nurses to talk to the community about what to expect upon entering the Emergency Department or in Labor and Delivery. A third suggestion was to create a movie or drama enacted by a group of involved teenagers about the concerns in the community.

It is crucial that the research team continue their work after the study will end, and this requires support. Mathai has argued that academic institutions and professional and civic organizations all have important roles in the development of health systems that respond to the needs of all mothers and babies in a just and equitable way (Mathai, 2008). To achieve MDGs 4 and 5, communities, providers, academics, and the administrators in the structures that support them need to forge different kinds of relationships with one another. Our CBPR experience in the Dominican Republic indicates that this approach has empowered those involved to collaborate towards a common goal of improving healthcare.

CONCLUSION

Despite the promising aspects of maternal and newborn care in the Dominican Republic, including focused outreach and education for adolescent prenatal care and near universal

hospital-based childbirth rates, many of the antenatal and intrapartum experiences collected in this study illustrate poor quality maternal health services that leave patients and their families feeling impotent, disrespected, and afraid. These attitudes and beliefs may increase the divide between health providers and individuals and communities, and delay women coming for care.

This CBPR study illustrated international collaboration between university researchers, maternity service providers, and community members. While sustained improvements in maternity services in this setting remain unknown, the process of understanding the beliefs and attitudes of the consumers of maternity services by both hospital personnel and community leaders led to a common understanding of the informative value of research. It also reminded all groups of their common mission to promote and protect maternal newborn health.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Research Team Members and Education in Research

Research Team Member	Prior Education and Research Training
Principal Investigator (PI) (1-US)	CNM with PhD degree. Three small funded research projects. Had 3 research assistants rotating over the course of the study: 2 with master's in nursing, one with baccalaureate degree.
In-country Nurse Investigator (Program Director - PD) (1-Dominican)	Master's degree with thesis. Prior experience on research teams.
Clinical Collaborator (CC) (1-US)	CNM with Master's degree with thesis. Prior experience on research teams.
Maternity Nurses (2-Dominican)	Baccalaureate degree in nursing. Research content in baccalaureate curriculum. Prior experience with unfunded project using focus groups.
Community Leaders (5-Dominican)	High school diploma (some have some university coursework). No prior research experience.

Table 2

Participant Demographics

	Adolescent Women Mean [Range]	Adult Women Mean [Range]	Adult Men Mean [Range]
Number of Participants Recruited:	N= 51	N= 59	N= 27
Mean Age of Participants:	18 [15–20] years	32 [21–48] years	37 [19–64] years
Participant Observation Cohort Number and Mean Age (included above):	N= 6 16 [15–19] years	N= 9 24 [21–32] years	--
Total Number of Years of Education ¹ :	8 [1–15] years	8 [2–17] years	8 [1–12] years
Number Living in the Household:	4 [2–9] people	5 [1–11] people	4 [1–7] people
Percent Who Work (Within Group):	30%	28%	95%
Monthly Household Income (US Dollar Equivalent ²):	\$112 [\$0–294] USD	\$146 [\$21–588] USD	\$181 [\$15–588] USD

¹Typical Dominican high school graduate has completed 12 years of education; a typical Dominican University graduate has completed 17 years of education

²Based on \$34 peso: \$1 USD, reflective of typical exchange rate at the time of data collection

Table 3

Self-Reported Childbirth Experiences among Study Participants

Totals ¹	Number	Percent	Comment
Total Number of Pregnancies:	246		Delivery data missing for one pregnancy
Number of Abortions:	31	13%	% of total pregnancies; includes one ectopic
Abortions with Complications:	7	23%	% of abortions; includes excessive bleeding
Number of Cesarean Sections:	79	37%	% of completed pregnancies
Cesarean Sections with Complications:	26		
Neonatal deaths:	3		
Number of Vaginal Deliveries:	135	63%	% of completed pregnancies
Vaginal Deliveries with Complications:	25		
Neonatal deaths:	8		Includes 2 intrauterine fetal deaths

¹Fifty-five percent of pregnancies and deliveries reported occurred between the years 2000–2010; 31% occurred between the years 1990–1999; and 15% of reported pregnancies and deliveries were from before the year 1980.

Table 4

Codes with Definitions

CODE	DEFINITION
KNOWLEDGE	Information that a person has about a predetermined topic.
Care	The way in which a person stays healthy.
Danger	The danger signs during pregnancy which threaten the health of the mother, the baby, or both.
Suggestions	Ideas to improve a situation (in this case, health services).
Time	The amount of time dedicated to utilizing public health services.
Transportation	The way the consumer of health services (<i>Sp. usuaria</i>) arrives to the health center or hospital.
Quality	In this sense, the good quality of attention of healthcare services.
BELIEFS	What is truth for one person, usually in this text something that is not recognized as truth by the health system.
ATTITUDES	The emotional reaction that a person has while facing a situation.
Fear	The fear of the consumer of health services (<i>Sp. usuaria</i>), or his or her family's fear of health, or health services.
Trust	A positive emotional feeling of having faith that what happens is what one believes will happen.
Discrimination	One person's behavior to another that is of unequal treatment; one person receives different treatment based on their status (i.e. gender, nationality, race, or social class).
Anger	A negative emotional feeling of being irritated with a situation.
Impotence	A negative emotional feeling of believing that one cannot possibly affect anything.
Justification	The reasons a person gives to explain his or her actions.
Negligence	A lack of attention and care to the health consumer (<i>Sp. usuaria</i>). It includes an abuse of human rights, and a lack of being treated with respect, professionalism, and good quality.
Sadness	A negative emotional feeling of seeing a situation in which there is pain or suffering in life.
Love	The emotion of fondness and concern.