Endangering safe motherhood in Mozambique: prenatal care as pregnancy risk

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Abstract

Despite high infant and maternal mortality rates, many Mozambican women with access to prenatal services delay prenatal clinic consultations, limiting opportunity for prevention and treatment of preventable pregnancy complications. Ethnographic research, interviews with health providers and longitudinal pregnancy case studies with 83 women were conducted in Central Mozambique to examine pregnant women’s underutilization of clinic-based prenatal services. The study found that pregnancy beliefs and prenatal practices reflect women’s attempts to influence reproduction under conditions of vulnerability at multiple levels. Women reported high maternal reproductive morbidity, frequent pregnancy wastage, and immense pressure to bear children throughout their reproductive years. Reproductive vulnerability is intensified by poverty and an intense burden placed on poor, peri-urban women farmers for family subsistence and continuous fertility in a period of economic austerity, land shortages, and increasing social conflict and inequality. In this environment of economic insecurity exacerbated by congested living conditions, women report competing for scarce resources, including male support and income. This vulnerability heightens women’s perceptions that they and their unborn infants will be targets of witchcraft or sorcery by jealous neighbors and kin. They respond by hiding pregnancy and delaying prenatal care. Within the context of women’s perceived reproductive risks, delayed prenatal care can be seen as a strategy to protect pregnancy from purposeful human and spirit harm. Women mobilized limited resources to acquire prenatal care outside the formal clinic setting. It is concluded that provision of clinical prenatal services is insufficient to reduce reproductive risks for the most socially and economically marginal since it is their vulnerability that prevents women from using available services. Confidential maternity services and social safety nets for greater economic security are recommended.

Introduction

More than half a million women die each year from pregnancy related causes, and 99% of these deaths occur in developing countries (WHO/UNICEF, 1996). After decades of externally funded civil war and under-development, Mozambique remains one of the poorest nations in the world, a plight that is reflected in the country’s poor maternal and child health indicators. While the estimated total fertility rate for women ages 15–49 is 5.61, and the general fertility rate is 197 births per 1000 women (MOH Mozambique, 1997), the estimated child mortality rate is 250 per 1000 live births, and the infant mortality rate is 147 per 1000 live births (MOH Mozambique, 1997). Maternal mortality has been estimated at 1500 deaths per 100,000 live births (UNICEF, 1998), and until recently back-street abortions were estimated to be responsible for 16–18% of all maternal deaths1 (Mugabe, 1998; Granja, 1996). The

1 Abortion is illegal in Mozambique, except in extreme cases when the mother’s life is endangered. However, the interpretation of the existing law has become less restrictive and abortions are available on request in a number of hospitals where doctors have encouraged women to seek medical help rather than use...
estimated lifetime risk of maternal death in Mozambique is one in nine women (WHO/UNICEF, 1996). Adequate prenatal care is known to decrease both maternal and infant morbidity and mortality and improve birth outcomes (Villar & Bergsjo, 1997), however underutilization of prenatal services is a problem in many developing countries (WHO, 1994), as it is in Mozambique.

Despite awareness of high infant and maternal death rates and extensive public health campaigns promoting early initiation of prenatal care, women in Mozambique with access\(^2\) to prenatal services routinely delay consultations until late in the second or third trimester of pregnancy, thus limiting opportunity for early detection and treatment of preventable complications (Murata, McGlynn, Leff, Siu, & Brook, 1992). To determine why some women delay or “underutilize” clinic-based prenatal care services, research was conducted to examine women’s pregnancy management strategies and pregnancy outcomes in Central Mozambique. Which women seek prenatal care services and which do not? When women do seek prenatal care, where do they go, when, and how do they decide? This paper explores the relationship between pregnant women’s perceptions and experiences of reproductive vulnerability, the socio-economic and cultural factors that influence pregnancy management strategies, and prenatal care decision-making from women’s perspectives.

In order to operationalize the specific question of why women routinely initiate prenatal care consultations in the formal biomedical health sector late (second or third trimester) in their pregnancies? the following research objectives were established: (1) provide an ethnography of pregnancy that contextualizes community knowledge, attitudes, beliefs about pregnancy, and practices related to prenatal health care; (2) identify and analyze patterns of prenatal health care-seeking of a representative sample of pregnant women; (3) identify and describe the range of health care facilities and providers utilized by women during pregnancy and childbirth; and (4) elaborate a taxonomy of perceived reproductive risks and treatments during pregnancy.

Over the past decade, global awareness of maternal and infant mortality in the developing world and the importance of prenatal care has increased dramatically (Rosenfield, 1989; Morsy, 1995). The technical interventions needed to improve maternal and infant outcomes are well understood (WHO, 1994; Goodburn & Campbell, 2001). However, traditional maternal and infant health programs, such as providing prenatal care and training traditional birth attendants have not met with great success (IAGSM, 1998; Maine, 1991; Goodburn & Campbell, 2001). Until recently, few studies focused on local experiences of reproductive vulnerability and specifically addressed prenatal care strategies of women in developing countries from an ethnographic perspective (Adetunji, 1996). The processes by which poor women in developing countries make reproductive health care choices during pregnancy have been largely unexamined (Chapman, 1998).

In spite of the dearth of information about pregnancy management strategies of poor women, the standard discourse on maternal mortality in developing countries often reveals underlying assumptions that poor women are incompetent and somehow undeserving health “consumers” (Marshall, 1988). Such assumptions inform attitudes prevalent among biomedical health workers, health policy makers, and international aid donor agencies. The following remarks of an UNICEF spokesperson presenting at a conference on maternal mortality and Safe Motherhood in Bangladesh capture this perspective:

> Who is it that dies most from maternal mortality most often? People who do not listen to the doctors, are neither educated nor motivated, without time or money, and so forth. In other words, those less likely to have sought prenatal care (Rohde, 1995, S5).

There is a need to know more about women at high risk for poor pregnancy and obstetric outcomes that underutilize prenatal care in Mozambique and elsewhere. This paper examines the pregnancy management strategies and perceptions of poor women in a region with high maternal and infant mortality. Research findings challenge the characterization of such women as “neither educated nor motivated” and shed light on the “and so forth” of the above quotation. It is proposed that women respond actively to social and economic pressures they believe constitute the greatest threats to their reproductive health and unborn infants. As a result, during early pregnancy women delay consultations at the maternity clinic and seek instead protective and curative therapies from alternative health care providers in the informal sector who address their experiences of reproductive vulnerability rooted in ruptured social relations and poverty. The Shona word for a woman whose pregnancy is apparent from clandestine methods. (see Agadjanian, 1998; Machungo et al., 1997). Quasi-legal abortion services in a sub-Saharan setting: user profile and motivations. Family Planning Perspectives, 24(3), 111–116. Machungo et al., 1997. Reproductive characteristics and post-abortion health consequences in women undergoing illegal and legal abortion in Maputo. Social Science & Medicine, 45(11), 1607–1613.

\(^2\)Access is defined here as living within 3km of a health facility where prenatal services are offered free of charge.
the swelling of her body is chikotsa, meaning alternately "the one who sees" or "the one who hides in order to conceal, save or keep." For women in Mucessua, silence and hiding are the first expressions of prenatal caring.

Background

Research was conducted from June 1993 to May 1995 in Mucessua, a neighborhood in the peri-urban town of Vila Gondola in Manica Province, Central Mozambique. The population of Manica Province is nearly 1 million, 80% of whom are engaged in subsistence agriculture. The per capita income is very low and an estimated 54% have had no education (MOH Mozambique, 1997). Follow-up research was implemented between January and June of 1998. When the study was initiated in 1993, a 15-year, externally funded war had recently ended with a cease-fire, followed by multi-party elections in 1994. Peace and democracy, however, had not brought prospects of meeting even the basic needs of the majority of the population. On the contrary, in 1995, it was estimated that for most Mozambicans, poverty had increased since the end of the war (Hanlon, 1997, p. 17). Continued impoverishment of Mozambique’s population is reflected in the high rate of maternal and infant mortality, a “most immediate and visible index of scarcity and unmet needs” (Scheper-Hughes, 1992).

In response to this continuing health crisis, Mozambique joined the World Health Organization (WHO, 1994) safe motherhood initiative (SMI) in the early 1990s (Povey, 1990). SMI is an international program to reduce the numbers of women injured, incapacitated, or killed by preventable and treatable complications during pregnancy or childbirth through provision of improved high-quality maternal health services. National Ministry of Health public health education campaigns for Safe Motherhood employing posters, radio announcements, and community health mobilizations with health care workers, local leaders and village elders all promote initiation of prenatal consultations in the first trimester and monthly prenatal consultations until delivery by a trained midwife or in a health facility.

Many aspects of Mozambique’s SMI plan to upgrade the availability, accessibility, and quality of essential obstetric care (Povey, 1990) remain unrealized due to resource limitations. Since the late 1970s, however, state maternity clinics have provided several prenatal services demonstrated to reduce maternal and infant mortality and morbidity. These interventions include folic acid and iron supplementation, screening and treatment of anemia, tuberculosis, and malaria, tetanus immunization, detection and care of pre-eclampsia, and, beginning in the late 1980s, screening for and treatment of syphilis and other sexually transmitted infections. Nutritional counseling for pregnant mothers and caretakers of weaning infants are also provided. All maternal and infant health services are officially free of charge. Since 1980, prenatal care services include the screening of women at high risk for pregnancy and/or obstetric complications in order to refer them to the appropriate level of care for treatment. Early detection of pregnancy or obstetric complication, however, depends on early initiation of prenatal exams and timely presentation at adequately equipped health facilities to give birth.

In spite of public health messages and Ministry of Health guidelines, most pregnant women in Manica Province delay prenatal care until after the first trimester. In 1994, a study of 1016 women utilizing state prenatal care services reported that an estimated 69% of all pregnant women in the district of Gondola initiated prenatal care in a state clinic at some point during pregnancy (Laforte, 1994). The mean time for initiating prenatal care, however, was during the sixth month of pregnancy. An estimated 44% of women in the district who initiated prenatal care did not return to give birth in a health facility. An estimated 57% of births in the Province are domiciliary (INE, 1998). These patterns

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3 The SMI strategy adopted in Mozambique encompasses short and long-term goals of upgrading all levels of care within maternal health services including: (1) domiciliary deliveries by traditional birth attendants; (2) primary care: family planning, post-partum consultations, maternity deliveries; (3) secondary care: communication and transport, waiting hostels, surgically equipped hospitals; and (4) epidemiologic monitoring (Povey, 1990).

4 Although the scope of benefits accrued by routine prenatal care for all women is currently being debated, both researchers and health care providers agree that various components of prenatal care services have been associated with positive pregnancy outcomes for both mother and infant. No prenatal care, late initiation, and inadequate number of prenatal care visits are all associated with negative pregnancy outcomes in some cases, including increased maternal and infant mortality.

5 This core element of the Mozambican Safe Motherhood Program is based on the WHO’s “risk approach” (WHO/UNICEF, 1978, WHO, 1980). Beginning in 1980, a pregnancy control form for health personnel to fill out during initial prenatal examinations was introduced in prenatal clinics throughout the country “to monitor pregnancies and to help direct specialist care to mothers at greatest risk” (Jelley & Madley, 1983, p. 111).
of late initiation of prenatal care and home birth were the same for women throughout the area regardless of distance from a health facility. Laforte (1994) further asserted that no parallel prenatal care system existed in the region. Health care providers in the formal sector were frequently exasperated by this “non-compliance.” Why weren’t women coming into the clinics when they were told to come in?

Understanding barriers to prenatal care

A sizeable literature has demonstrated that both maternal and child health are strongly related to the adequacy of prenatal care (Fiscella, 1995; Kogan, Martin, & Ventura, 1998; Villar & Bergsjo, 1997). Less is known, however, about factors influencing adequate prenatal care utilization in developing countries. Most research relies on institutional data from developed countries and focuses primarily on maternal demographic characteristics. Consistent patterns in findings from such studies facilitate construction of profiles of women who are more or less likely to get adequate prenatal care (St. John & Winston, 1989). As St. John and Winston point out, however, such profiles do not fully explain why some women get adequate prenatal care while others do not (1989, p. 81). Increasingly, researchers are attempting to identify factors other than demographic characteristics that explain variations in pregnancy management strategies (Winston & Oths, 2000; Joyce, Differenbacher, Greene, & Sorokin, 1983; Pagnini & Reichman, 2000; Laken & Ager, 1995; Lazarus, 1990; Casper & Hogan, 1990; Browner & Press, 1997; Poland, 1989; Albrecht, 1996; Johnsen, 1987; Sokoloski, 1995; Corbin, 1987; St. John & Winston, 1989; Whiteford, 1996; Zambrana, Scrimshaw, Collins, & Dinkel-Schetter, 1997).

Several recent studies of women’s reproductive health in developing countries suggest that beyond institutional and structural access barriers such as distance, lack of services, and transport (Schmid, Kanenda, Ahluwalia, & Kouletio, 2001), poor treatment by care providers, and ability to pay for services (Floriano et al., 2001), a constellation of psychosocial, cultural, and socio-economic factors further mediate prenatal and obstetric care utilization. Such factors as cultural preferences for alternative treatment (Adetunji, 1996), pregnancy risk perceptions (Asowa-Omorodion, 1997; Jirojwong, 1996) and differences between local physiological and anatomical concepts of reproduction and biomedical provider models (Sesia, 1997) have been shown to influence prenatal care use. These important studies help to direct attention to social-cultural explanations of reproductive behavior and document the ways that local explanatory models influence prenatal health seeking. For example, past studies have shown that where health messages are correctly commu-

nicated and culturally appropriate, the educational differentials in health service use among women could be removed (Streatfield, Singarimbun, & Diamond, 1990), and that inadequate knowledge of tetanus immunization services in some parts of Nigeria leads to underutilization (Antia-Obong, Young, & Effiong, 1993).

Further insight into the nature of health explanatory models and the mechanisms by which they emerge and change over time is gained when studies of prenatal care use have explored the context of local explanatory models and the processes by which local perceptions of risk influence pregnancy strategies. When the political economic setting of social and culturally patterned pregnancy management strategies is explored, researchers have found that explanatory models interact with broader social and economic forces. Class relations and economic decline (Sargent & Rawlins, 1990), gendered work and reproductive labor expectations (Avotri & Walters, 1999; Browner, 1985), low status of women (Obermeyer, 1993), pregnancy timing and “wantedness” (Eggleston, 2000), and women’s socio-economic circumstances and the structure and practices of the health system (Atkinson, Sarah, & Farias, 1994) are key factors that both shape explanatory models and mediate prenatal health-seeking behavior. When explanatory models are analyzed within their broader context, the locus of barriers to prenatal care use shifts from client population behavior to socio-political structure and economic dynamics that interact with local ideologies.

There is little research that helps explain the pattern of delayed prenatal care in Mozambique specifically. One study conducted by Jelley and Madley three years following the 1980 implementation of the obstetric risk screening approach in maternal health clinics in Mozambique’s capital, Maputo, found that the women most at risk for pregnancy and obstetric complications were not the primary users of state prenatal services (Jelley & Madley, 1983). They concluded that women identified as high-risk obstetric cases underused prenatal services in comparison to those identified as lower risk (Jelley & Madley, 1983, p. 111). This study exposed a gap between service provision and utilization by women categorized as most in need of prenatal care, suggesting that there are barriers to prenatal care utilization that are beyond biomedical factors and precede the functioning of medical services. The fact that women with access to prenatal health services significantly underutilize them highlights the need for more information about the communities that are the focus of SMI in Mozambique.

Ethnographic setting

Research was conducted in Central Mozambique in Mucessua, a bairro or neighborhood of approximately 5000 inhabitants on the outskirts of the town of Vila...
Gondola, the administrative center of the Gondola District, Manica Province. The District of Gondola is an appropriate site for this research. Maternal health service utilization in Gondola is low and late compared to other Districts in Manica Province (Laforte, 1994). Bairro Mucessua was chosen for three primary reasons: safety considerations during the cease-fire, the author’s rapport in the community, and distance of less than 5 km between Mucessua and the Maternity Clinic, the nearest and primary source of prenatal services for the community. Residence further than 5 km from a health facility was shown in earlier studies to create barriers to health facility utilization (Laforte, 1994).

Mucessua is a rambling and crowded squatter community of poor, smallholder farmers, many of whom moved into town during the war for safety and stayed. The majority of Mucessua residents speak Shona-related languages, predominantly Chitewe and Chimana. The area is devoted to private agricultural estates and subsistence agriculture. The largest employers—the parastatal Mozambique Railway Company, Avibela, a private poultry factory, government service and small-scale retailing—employ only a small percentage of the local population in wage labor. Male unemployment in Mucessua is estimated at 85% (INE, 1994). Most residents are engaged in subsistence agriculture and some informal sector sale of produce, household necessities, home-made alcohol and used clothing. People survive primarily on maize and other grains grown in household fields called machambas and vegetables from individual riverbed plots called matoros along the Mucessua River. Though a few families inhabit brick houses abandoned by the Portuguese at Independence, most live in small mud and pole homes with thatched or tin sheeting roofs and gather water from one of four communal boreholes or traditional wells. Only two homes in the sample of 83 had electricity, and only one had pipe-borne running water from the town water system. Buses, minivans, lorries and private cars take paying passengers along the main road through Vila Gondola and out to some rural localities. Only one Mucessua resident was known to own a car during the research period.

Health and maternity services

Longstanding underfunding and the health budget cuts initiated as part of economic restructuring in 1987 have left all Mozambican government health services compromised, health facilities dilapidated, and many health personnel demoralized (Cliff, 1991). There are frequent stock breaks, and pharmaceuticals and other medical supplies are sometimes appropriated and sold in the informal sector as health workers attempt to supplement inadequate wages. Given the poor conditions that exist for health care delivery in Mozambique, the health system in Gondola District functions better than might be expected. Trained health workers are generally at their posts, and the required immunizations and supplements are free and generally in stock. Maternal and infant health services are free of charge and costs for prescribed pharmaceuticals are minimal or waived based on need. Despite existing problems with the quality of health services, however, women in this study did not report these as primary among their reasons for delaying prenatal care.

Government health services in the District of Gondola include a District Health Center (DHC), a District Maternity Clinic (MC) and nine rural health posts (RHP) to serve an estimated population of 184,600 (INE, 1997) living in and around the administrative center and six other administrative posts. Outside of Vila Gondola and the nine rural localities where RHPs have been built, the population is widely dispersed in rural compounds. RHPs serve communities located more than 20 km from the DHC. The DHC laboratory is equipped to examine blood for hemoglobin levels, screen for malaria, and sexually transmitted infections, and examine stool samples for hookworm infestation. Routine maternity services are delivered at the MC, which is housed at a separate facility located 1 km away from the DHC, and two of the nine district RHPs provide formal maternity services.

Services offered at the MC include routine child delivery services, well-baby clinic, prenatal and postnatal care, pregnancy and weaning nutrition counseling, family planning information and limited contraception services. If complications occur during delivery at the MC that the maternity nurses cannot resolve, there is one District doctor, frequently a medical student doing a mandatory 2-year rural residency, who can be summoned from the DHC 1 km away. When transport is available, obstetric emergency cases (including uterine evacuation and Caesarean section) may also be transferred to the Provincial Hospital 30 km away. The two RHPs with maternity services are both staffed by a maternal and infant trained nurse who conducts routine prenatal examinations, administers tetanus toxoid immunization, iron and folic acid supplements, routine delivery services, and referral support for pregnant women. All nine of the RHPs are responsible for registering pregnant women and referring them to the MC. Mucessua, the neighborhood where this study was conducted, is in the catchment area of the DHC. Most residents of Mucessua walk the one to 3 km to the DHC or MC. Some Mucessua residents own bicycles.

Methods and research design

Data were gathered using key informant interviews and reproductive health questionnaires with 83 women
of reproductive age during pregnancy and after birth, life histories of a subset of 15 women from the pregnancy case study group, and focus group sessions at the community level. Women self-reported the number of months they were pregnant at the time of first interview and the time they initiated prenatal care in the Maternity Clinic. Data on health care alternatives in Mucessua were collected through in-depth interviews of formal and informal sector health care providers, including doctors, nurses, midwives, healer-diviners, church prophets and pastors, herbalists, pharmacists, and health administrators and observations at their sites of practice. Key informant interviews and life histories were analyzed to identify themes, concepts, and explanations as well as to construct a taxonomy of possible threats to reproductive health and an explanatory model of health-seeking during pregnancy. The researcher participated in the daily activities of women in Mucessua, and was pregnant and gave birth during the research period. Data presented in this paper reflect primarily data from the case studies and life history interviews.

**Sampling methods**

Aspects of the culture surrounding pregnancy presented challenges to selecting a random sample. As Adetunji (1996) found among the Yoruba in southwestern Nigeria, pregnant women in Mucessua do not like to talk about being pregnant. Initially, the study employed systematic random sampling, recruiting participants from each tenth compound across the bairro until 100 pregnant women were selected. This approach was met with great distrust and fear, and proved counterproductive. The sampling technique was replaced by a snowball sampling technique to recruit pregnant women who voluntarily participated in the study. This strategy gave women the option of exposing their pregnancy to family and neighbors if they desired. Most preferred to come alone to the house of the primary research assistant, herself a resident of Mucessua, and sign up to participate in the study with the estrangeira (foreigner). As the research progressed, more women heard about the project and volunteered until 83 pregnant women were recruited for the case study group.

There are several potential biases in this recruitment process. It may have selected women more likely to use the formal health care services, women who saw themselves or were seen by others as more educated or assimilada (Europeanized), and/or women with stronger social networks within the bairro. And yet, what was lost in random selection was gained in trust. Entrée to pregnant women and their segredos (secrets) was only possible through trustworthy, grassroots networks of locally respected women. Based on demographic and socio-economic data gathered, the resulting sample was nonetheless representative of the range of cultural and economic variation in Mucessua. Using standard epidemiological calculations of the number of pregnant women in the Mucessua population of 5000, the 83 case study sample represented one third of the estimated pregnancies in the bairro.

**Findings**

**Characteristics of the sample**

Women in the sample ranged in age from 15 to 49, with a mean of 26 years. Most were non-literate, averaging 2.6 years of education. The mean sample household size was seven. The majority of households were extremely economically vulnerable, and women had little access to cash. Only two women were formally employed, both as domestics in government offices, and only 35% reported earning cash that remained in their control from informal sector labor, mostly selling extra produce. Although there was some variation within the sample, most household incomes were low, sporadic, and fluctuated seasonally. The mean estimated household income was 91,000 meticais (US $9) per month. This is less than a third of what the government estimated would be needed on top of adequate subsistence food crop reserves to feed a household of seven for a month (MOH, 1993). Yet only 9.6% (8) women reported having adequate grain supplies to last until the next harvest without purchasing more grain. Eighty percent (66) of the women in the sample had access to machambas, parcels of land cultivated with staple crops for family consumption and sale. Thirty-five percent (29) had access to matoros, small vegetable gardens along riverbeds where they cultivate vegetables and fruits for consumption and sale.

**Initiation of prenatal consultations in government clinics**

A majority of the sample, 85.5% (71) reported that they did not initiate prenatal consultations during the first trimester (Table 1). Most initiated prenatal care between the fifth and seventh month when pregnancy is hard to hide and many women report fetal movement, but late, for example to prevent fetal damage from syphilis. The mean time for initiation was sixth months' gestation.

To understand why women with access (living within 3 km to free services) to the Maternity Clinic delayed prenatal consultations, it was necessary to discover what motivated women to seek prenatal care at all. What were women’s experiences of reproductive vulnerability, and what problems did women experience and perceive as
threats to pregnancy and to maternal and fetal health during pregnancy?

Reproductive vulnerability

Pregnancy and reproductive loss

The term “reproductive loss” refers to miscarriage, perinatal deaths (stillbirth to 7 days post-partum), and infant deaths (1 week post live birth to 1 year post-partum). Deaths of infants up to the age of one are included in this category because women believed death of a nursing or weaning age child to have a negative impact on one’s future fertility, and as such was considered a serious threat to conception, pregnancy, and reproduction (Chapman, 1998).

Taking into account that reproductive losses may be under-reported due to the stigma placed on women who have repeated reproductive losses, data suggest that women in Muccusa are extremely vulnerable to reproductive morbidity and loss throughout their reproductive years. Women in the case study had reason to fear losing their pregnancy or infant during its first year of life. The number of previous pregnancies per participant ranged from zero to eleven with a mean of four total pregnancies. Almost 23% (19) women were pregnant for the first time. Table 2 indicates the number of past reproductive losses reported by the sample. Of the 64 women with a previous pregnancy, 67% (43) reported at least one pregnancy ended in reproductive loss.

Table 1
Women initiating antenatal care in formal sector maternity clinic by trimester, N = 83

<table>
<thead>
<tr>
<th>Trimester initiated prenatal consultations in clinic</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>First trimester</td>
<td>6</td>
<td>7.2</td>
</tr>
<tr>
<td>Second trimester</td>
<td>43</td>
<td>51.8</td>
</tr>
<tr>
<td>Third trimester</td>
<td>23</td>
<td>27.7</td>
</tr>
<tr>
<td>No antenatal</td>
<td>5</td>
<td>6.0</td>
</tr>
<tr>
<td>No information</td>
<td>6</td>
<td>7.2</td>
</tr>
<tr>
<td>Total</td>
<td>83</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2
Past reproductive loss among case study group, N = 83

<table>
<thead>
<tr>
<th>Past reproductive loss</th>
<th>No. women with corresponding no. of losses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>First pregnancy</td>
<td>19</td>
<td>22.9</td>
</tr>
<tr>
<td>0 Losses</td>
<td>21</td>
<td>25.3</td>
</tr>
<tr>
<td>1 Loss</td>
<td>26</td>
<td>31.3</td>
</tr>
<tr>
<td>2 Losses</td>
<td>9</td>
<td>10.8</td>
</tr>
<tr>
<td>3 Losses</td>
<td>3</td>
<td>3.6</td>
</tr>
<tr>
<td>4 Losses</td>
<td>2</td>
<td>2.4</td>
</tr>
<tr>
<td>5 Losses</td>
<td>2</td>
<td>2.4</td>
</tr>
<tr>
<td>6 Losses</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>Total</td>
<td>83</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3
Pregnancy outcomes of women in case study group

<table>
<thead>
<tr>
<th>Pregnancy outcome</th>
<th>Past pregnancies % (no.) N = 332</th>
<th>Case study pregnancies % (no.) N = 83</th>
</tr>
</thead>
<tbody>
<tr>
<td>No losses</td>
<td>80.4 (267)</td>
<td>85.5 (71)</td>
</tr>
<tr>
<td>Induced abortion</td>
<td>1.5 (5)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Miscarriage</td>
<td>1.8 (6)</td>
<td>3.6 (3)</td>
</tr>
<tr>
<td>Stillbirth</td>
<td>2.1 (7)</td>
<td>4.8 (4)</td>
</tr>
<tr>
<td>Perinatal death</td>
<td>2.4 (8)</td>
<td>1.2 (1)</td>
</tr>
<tr>
<td>Infant death</td>
<td>11.7 (39)</td>
<td>3.6 (3)</td>
</tr>
<tr>
<td>Maternal death</td>
<td>(0)</td>
<td>(0)</td>
</tr>
<tr>
<td>No information</td>
<td>0 (0)</td>
<td>1.2 (1)</td>
</tr>
<tr>
<td>Total</td>
<td>100 (332)</td>
<td>100 (83)</td>
</tr>
</tbody>
</table>

Any woman who has frequent miscarriage, still births or whose children do not survive is suspected of being a spirit wife, as is a woman who has difficulty in delivery except when she gives birth within the confines of her father’s compound. Spirit wives and their offspring are threatened by spirit intervention if her social, especially sexual, behavior is knowingly or unknowingly in contradiction with her status as a mukadzi we mudzimo (wife of spirit elder or spirit of a dead relative, Shona; mulher d’espirito: spirit’s wife, Portuguese).

Table 3 presents the types of past pregnancy losses reported by women in the case study and the outcomes of their pregnancies followed during the study period. Past reported reproductive losses were primarily infant deaths. Because induced abortion is illegal in Mozambique, information regarding its practice is difficult to obtain, and women are reluctant to discuss it. For those who can afford them and know how to negotiate the system, “quasi-legal” induced abortion services are available on request in a number of hospitals in the country (Agadjanian, 1998; Mugabe, 1998; Machungo, Zanconato, & Bergstrom, 1997). Nonetheless, clandestine abortions performed by curettage or with the use of herbal and other non-patent abortifacients, remain common (Agadjanian, 1998). In Muccusa, several informal providers reported that the most frequent requests for service they receive are to perform abortions and to cure infertility, though all informal providers denied performing induced abortions. However, 6% (5) of women in the case study reported having...
had an induced abortion in the past. Although there were no reported induced abortions reported as outcomes of the case study pregnancies, it is possible that induced abortions may have been reported as miscarriages. Of the 83 case study pregnancies, 13.2% (11) resulted in reproductive loss (Table 3).

Pregnancy illness episodes

Women in the case study were asked to report all morbidity experienced during pregnancy. Each separate incidence is referred to here as a “pregnancy illness episode”—any health problem or perceived threat to health that occurred during pregnancy. Types of episodes ranged from problems of the reproductive system and genitals to headaches, fevers, stomach problems, lack of blood, pains in bones and teeth, problems with chest, lungs, and heart, and fear of witchcraft or sorcery. A total of 380 illness episodes during pregnancy were reported (Table 4).

Etiology of illness episodes and reproductive threats

Table 5 presents data on the etiology of reported pregnancy illness episodes. When asked to identify the cause of each reported pregnancy illness episode, women’s responses fell into one of two broad etiologically defined etiologic domains—“naturalistic” causes and “personalistic” causes (Foster, 1998) (Table 5). Drawing on Foster’s classic typologies of causality beliefs, “naturalistic” refers to a principle of illness caused by natural forces or conditions such as germs, hot and cold, contaminated food or water, or an upset in the balance of the basic body elements. The term “personalistic” refers to illness causality being assigned to “an active, purposeful intervention of an agent, who may be a human (a witch or sorcerer), non-human (a ghost, an ancestor, an evil spirit) or supernatural (a deity or other very powerful being)” (Foster, 1998, p. 112).

One category within naturalistic illness episodes included illnesses considered unrelated or coincidental to pregnancy. Malaria, colds, and some forms of tuberculosis, for example, were regarded as naturally occurring “illnesses of the world” (doenças do mundo, Portuguese), sometimes called “God-given” or “God-sent illnesses” (doenças do Deus, doenças mandados por Deus). Such illness episodes were reportedly caused by natural agents such as mosquitoes causing malaria, contaminated food or water resulting in diarrhea, or contact with an infectious person.

The second category of naturalistic illness episodes were referred to as “symptoms of pregnancy” (síntomas da gravidez)—health problems caused by pregnancy itself resulting in discomfort or severe symptoms. Symptoms of pregnancy were considered routine, though often debilitating, physical manifestations of the normal process of pregnancy, for example tooth aches, sore legs, back pain, or varicose veins.

A second broad domain of reported pregnancy illness episodes can be characterized as personalistic. This category included many of what were considered the most serious reproductive problems—from difficulty conceiving, hemorrhaging, threatened miscarriage, constant illness, lactating during pregnancy, previous
reproductive loss of any kind, and all birth complications. These problems were most frequently diagnosed as being caused by witchcraft or sorcery, uroya in Chitewe or fetiço in Portuguese, or by intervention of mal espirito (bad spirit).

Significantly, of all the reported illness episodes for which pregnant women sought treatment, 23.4% (89) were reported as being caused by witchcraft, sorcery or mal espirito (Table 5). Under certain conditions, diagnoses for an illness shifted from the natural etiology—of God or symptoms of pregnancy—to a diagnosis of personalistic harm caused by a human or spirit foe. This occurred when one or more of the following conditions applied: (1) The problem is undetectable or dismissed untreated in another sector, especially biomedical, despite acute sensation of symptoms by the sufferer; (2) following diagnosis, the problem does not respond to indicated treatment within an expected time period; (3) symptoms are unusually acute; (4) the condition persists over an unusually long duration; or (5) the problem occurs simultaneously with an unusual combination of other symptoms.

Characteristics of pregnancy management

Illness etiology and patterns of resort

The perceived etiology of illness episodes during pregnancy strongly influenced where women sought preventive and curative treatments. Each woman in the case study group was asked to report all treatment-seeking during her pregnancy. Table 6 presents the sources and frequency of utilization of treatment for all reported illness episodes organized by their reported etiology. A total of 409 health-seeking episodes were reported, and 87 more visits to the MC were estimated from maternal anti-tetanus vaccination records, making a total of 496 health-seeking episodes. Women did not seek treatment for 11.3% (43) of the total reported illness episodes. In these cases women reported enduring illness episodes until they experienced relief from symptoms without intervention or until symptoms changed.

Women’s reported and observed patterns of resort indicate that, contrary to the assertion that no parallel prenatal care system exists in Manica Province (Laforte, 1994), a significant informal sector of popular healing options offering prenatal and other reproductive care, in fact, does exist. Perceptions of the etiology of reproductive threats influenced women’s health-seeking during pregnancy in several ways as they utilized different providers and services in this medically plural setting (Table 6). Illness episodes considered naturally occurring and coincidental to pregnancy were most frequently self-treated with pharmaceuticals or at the District Health Center. For symptoms of pregnancy women sought treatment from many sources but primarily the one private pharmacy and open market drug sellers, the District Medical Center and churches. Illness episodes diagnosed as a personalistic, problems caused by a human or spirit agent directing harm at a specific individual, were almost always treated outside of the biomedical sector (Table 6).

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Table 6

<table>
<thead>
<tr>
<th>Treatment options</th>
<th>Domains of illness episodes</th>
<th>N = 380</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No information</td>
<td>World god</td>
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<tr>
<td>No treatment</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Pharmaceuticala</td>
<td>2</td>
<td>33</td>
</tr>
<tr>
<td>Herbal</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>District Health Ctr.</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Church</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Curandeiro</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Prophet</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Prayera</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mission clinic</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Traveling “Nurse”</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Maternity clinic</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>68</td>
</tr>
</tbody>
</table>

aSelf-treatment.
Fluidity of movement and layering of treatment

Fluid movement between formal and informal health providers refers to women utilizing formal and informal sector health care options in succession or simultaneously. The result is a layering of protection and treatment from different sources. This fluidity in reproductive health-seeking is best illustrated by a case study of Raquel’s search for a cure for syphilis. At 5 months’ gestation Raquel suffered from intense vaginal itching and pain when she urinated. Following a routine clinic consultation, the nurses at the District Maternity Clinic sent her for a blood screening to confirm clinical diagnosis of a sexually transmitted infection. She tested positive for syphilis, and was given a prescription for twelve antibiotic tablets that cost 12,000 meticais (+ US $1.20—half of a week’s salary at minimum government wages). After paying 5000 meticais for an under-the-table payment to get her results at the laboratory, Raquel had only 7000 meticais left, so she was given half her prescription at the pharmacy. The six white pills did not reduce her pain and itching.

The next month, Raquel proceeded to a curandeiro who gave her an infusion of roots for another 5000 meticais. The itching diminished but did not stop completely. She continued taking the infusion for 3 months, but also bought six injections from a traveling “nurse” who charged 30,000 meticais. This “nurse” administered the injections to Raquel and her husband once a week over 3 weeks. The injections seemed to finally overcome the itching. Still, to make sure it would not return, Raquel went, in her seventh month, to a Zion Christian Church prophet, who gave her a blessing and sacred water to drink and bathe in. The treatment was free, but Raquel left the prophet 5000 meticais as an “offering” (chipo, Shona). In Raquel’s own words, the layers of treatments had all played a part in her ultimate cure:

They all treat (sexually transmitted diseases), but it depends on the luck of where you go to be cured. Three treatments are the limit, though—the Father, Son, and the Holy Spirit! The hospital is really better because at the hospital they do analysis. So first, I finished the hospital’s pills. But everything helped. The curandeiro cleaned inside me for the baby not to get infected, but he didn’t cure the illness. It was only diminished. The injections attacked the bridge of the illness (tsine ye nhenda, Chitewa), where the illness is fixed inside you. Like a tree (the illness) already had deep roots. The prophet’s treatment was to cleanse my body and to not have more bad luck (Raquel, age 27, 8 pregnancies, 3 reproductive losses, 5 living children).

For women in Mucussua, prenatal care is a process of layering protection against the various impending reproductive threats they perceive around them. The combined tactics of layering prenatal care from different sources and adhering to a local code of behavior for pregnant women involving secrecy and late disclosure of pregnancy are elements of “safe passage”—a survival strategy from pre-conception through childbirth.

Early prenatal care seeking from alternative sources

A second general characteristic of pregnancy management was that many women sought prenatal health care early in pregnancy during the first trimester, but not at the Maternity Clinic. Table 7 presents the number of women who sought treatment at least once from the existing treatment options across three trimesters.

In the first trimester, more women sought prenatal health care from alternative sources than attended the Maternity Clinic. As Table 7 shows, while 86.7% (72) of women reported seeking treatment from alternative health options, only 7.2% (6) went to the Maternity Clinic, and 19.3% (16) to the District Health Center. In the second and third trimesters visits to the Maternity Clinic increase significantly, but after the time promoted for initiation of prenatal consultations. Most significantly, while women continued to experience an increasing number of illness episodes during pregnancy, they did not report seeking treatment at the Maternity Clinic. Instead, patronization of spiritual healers and use of herbal treatments increased in the second and third trimesters as women addressed threats to pregnancy they believed lay outside the expertise of the biomedical sector.

Increased use of alternative sources of prenatal care across trimesters

The third general characteristic observed was an increase in alternative prenatal treatment for personalistic threats to reproduction as pregnancy progresses. Alternative prenatal care use is similar in frequency to clinical prenatal care service use in the second semester. Alternative care use then overtakes biomedical prenatal care use in the third trimester. This pattern might be accounted for by three factors. First, in the third trimester, many women begin preparing for birth using local plant preparations and other substances for ingestion and for massage of the birth canal and perineum. A second factor might be that over time shifts occurred in the diagnosis of chronic and severe problems during pregnancy from natural to personalistic etiology. Lastly, all illnesses late in pregnancy were seen as more serious reproductive threats. The “bigger” the pregnancy, the more vulnerable the mother and unborn child were to harm. By the third trimester nearly the entire sample was seeking alternative prenatal health care. These two trends are illustrated in Table 7.
Barriers to biomedical prenatal care seeking

Drawing from case study group interviews, focus group discussions and informal conversations with women in Mucussua, four factors emerged as the most influential on pregnancy management strategies and prenatal patterns of resort: (1) a woman’s individual reproductive history; (2) women’s work; (3) provider-client relationships; and (4) fear of personalistic reproductive threats.

Reproductive history

Women’s individual histories of reproductive health problems, especially in most recent past and current pregnancies influenced women’s decisions about whether, when, and where to initiate prenatal care. In 12% (10) of the cases, problems in past or current pregnancies were reported as the primary catalyst for initiating clinical prenatal consultations. In current pregnancies, problems reported were referred to as illnesses of “the world” or “of God,” both related and coincidental to pregnancy. These illnesses included sexually transmitted infections, malaria, and non-ceremonially provoked tuberculosis. Women resorted to clinical care when the problem did not respond to self-treatment and was perceived as falling within the efficacy of biomedicine. Women without problems or histories of reproductive problems more frequently reported being influenced in their decision of when and if to initiate in the formal sector by work, time and resource constraints and fear of personalistic reproductive threats.

Women’s work, time and resource constraints

Only 9.6% (8) of women in the case study reported time, distance, or financial inconvenience as their primary reason for delaying consultations in the formal biomedical sector. There is other evidence that these were a factor in more than eight cases. Women in Mucussua are primarily responsible for meeting the basic needs of their households, and their agricultural and domestic tasks are extremely labor-intensive. It was both reported by all case study participants and observed that women’s work responsibilities do not change or decrease significantly during pregnancy, and it is a general expectation that pregnant women, even when they are in labor, should continue working, cooking, or cleaning without complaint right up until the moment they stop to give birth. While a prenatal exam in Gondola takes between 5 and 10 min, the wait to be seen ranges from one to three hours (Laforte, 1994, p. 10). That time is increased when a woman has to wait in several lines for a child to be weighed and examined. It is a 20-min to 1-h walk one way to the MC from the different quarters of Bairro Mucussua. Most women described their visits to the clinic as taking half the day. In the atmosphere of growing tension among health workers with low salaries and poor working conditions, unauthorized fees were sometimes applied to officially free services, thus adding economic burden to time conflict. Based on this information it is safe to assume that work, time and resource conflicts resulting from the journey to and from the MC (involving a 1- to 5-km walk each way) influenced even more women’s health-seeking behavior. Pregnant women who did not suffer from urgent health problems often could not afford to take

<table>
<thead>
<tr>
<th>Treatment option</th>
<th>Trimester frequency (percentage)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First trimester</td>
<td>Second trimester</td>
</tr>
<tr>
<td>No treatment</td>
<td>6 (7.2%)</td>
<td>8 (9.6%)</td>
</tr>
<tr>
<td>Pharmaceuticalb</td>
<td>31 (37.3%)</td>
<td>25 (30.1%)</td>
</tr>
<tr>
<td>Herbalb</td>
<td>3 (3.6%)</td>
<td>4 (4.8%)</td>
</tr>
<tr>
<td>District Health Ctr.</td>
<td>16 (19.3%)</td>
<td>25 (30.1%)</td>
</tr>
<tr>
<td>Church</td>
<td>21 (25.3%)</td>
<td>23 (27.7%)</td>
</tr>
<tr>
<td>Curandeiro</td>
<td>5 (6.0%)</td>
<td>5 (6.0%)</td>
</tr>
<tr>
<td>Prophet</td>
<td>7 (8.4%)</td>
<td>13 (15.7%)</td>
</tr>
<tr>
<td>Prayerb</td>
<td>4 (4.8%)</td>
<td>4 (4.8%)</td>
</tr>
<tr>
<td>Mission clinic</td>
<td>1 (1.2%)</td>
<td>3 (3.6%)</td>
</tr>
<tr>
<td>Traveling nurse</td>
<td>0 (0%)</td>
<td>2 (2.4%)</td>
</tr>
<tr>
<td>Maternity clinic</td>
<td>6 (7.2%)</td>
<td>58 (69.8%)</td>
</tr>
</tbody>
</table>

*Total are not given because the same woman may have used more than one option in any single trimester or used one option more than once.

bSelf-treatment.
the time to stand or sit in line for a routine prenatal check-up.

Provider–client relationships and perceptions of biomedical prenatal services

A number of barriers within the formal biomedical sector also influenced women’s use of clinical prenatal services in the first trimester. In some cases, national norms for prenatal care that encourage initiation in the first trimester were directly undermined by Maternity Clinic staff turning women away and telling them to come back later in the pregnancy. Only 4.8% (4) of the women in the sample were sent away and told to come back when they had something to “see” or “measure.” Two of these returned in the second trimester, one in the third, and one did not return. The practice of actively discouraging some women from coming into the clinic early in pregnancy might be related to the fact that the most common means by which gestational age was assessed in the Gondola MC was measuring uterine height and external palpation.

The attitudes and practices of the MC personnel influenced women’s attendance of the clinic in other ways. Five women (6%) reported going to the MC only or primarily to obtain the prenatal evaluation form and vaccination record card as proof of attendance. These women saw no other value in attending the clinic. None of these women came in the first trimester, yet all worried that without the form they would be treated poorly or not be admitted to the clinic to give birth later. It was generally an accepted fact that women without this card as proof of prenatal clinic attendance were routinely turned away from the MC when they presented for delivery, and most of the women knew or had heard of someone who had experienced this fate. This unauthorized negative reinforcement mechanism was evidently being used to pressure women to come into the clinic for prenatal consultations. One woman in the sample was turned away and gave birth to a son on the roadside as she attempted to go back home. With her placenta still inside her and bleeding heavily, she had returned to the MC. Two other women in the sample had experienced this in past pregnancies. Even women who did not plan to give birth at the clinic said the card was useful to have, in case something went wrong during childbirth. The MC itself was not considered a source of relevant preventive or curative treatment during pregnancy, but a source of curative services when problems emerge in childbirth.

Women considered very few types of potential reproductive risks to be best treated in the formal biomedical sector. Biomedical facilities were believed to be the best option for care during pregnancy only in the areas of treating problems during childbirth that require surgery or some other medical technology, such as obstructed labor or post-partum hemorrhaging, and family planning. Biomedical services were believed to be sometimes effective in treating infertility and sexually transmitted infections (STIs). Prophets and *curandeiros*, however, were more frequently rated as better in treating infertility and curandeiros more frequently mentioned for success in treating STIs. While several women expressed the belief that any sick person should go first to the hospital, a much-emphasized public health message—a majority of respondents, like Sara, expressed a more nuanced approach to prenatal care-seeking:

When some women conceive they always have pain. This kind of pain could provoke a miscarriage. They must find the person who knows how to treat this. A *curandeiro* or pastor could treat this, but it depends on the woman. There are some cramps that are from your body, and there are (illnesses provoked by) *mal espírito*. Only a prophet or *curandeiro* can say which is which. In the hospital they don’t know how to differentiate. But neither the hospital nor the *curandeiro* can cure without God’s help (Sara, age 32, 3 preg., 1 mort., 2 child).

Only *curandeiros*, church pastors and prophets were reported to be effective in addressing personalistic reproductive threats of sorcery and *mal espírito*.

Personalistic reproductive threats during pregnancy

Overwhelmingly it was fear of personalistic reproductive threats posed by sorcery and *mal espírito* that women reported to be the strongest influence on their prenatal health-seeking strategies. A majority (57% (47)) of case study women reported utilizing alternative and additional sources of reproductive health care to protect themselves against personalistic reproductive threats. Fears of witchcraft and bad spirits were so strong that many women hid their pregnancies and delayed going to the maternity clinic until they could no longer conceal their pregnancies. Insecurity about whether a pregnancy will “hold” (*kubata*, Shona) led 58.7% (40) of the women in the study to hide their status from all but the most intimately involved, in most cases partner and mother or mother-in-law, and to do as little as possible to give any evidence of their suspected condition. For example, women commonly bound their bodies under traditional cloth wraps in an attempt to diminish the protrusion of their abdomens in early pregnancy. In both focus groups and individual interviews, women reported that they considered going to the maternity clinic an open act of confidence akin to bragging that might draw unwanted attention from a host of potentially harmful individuals including jealous neighbors, resentful infertile women, female rivals involved sexually with a male partner, or prospective birth assistants.
Women’s articulation of anxiety about reproductive risks, and the way reproductive threats during pregnancy are perceived, categorized, and addressed at the individual and collective levels reveal connections between fear of reproductive loss and broader configurations of social, economic, and political vulnerability. These fears and experiences of personalistic reproductive threats during pregnancy were described in terms of witchcraft, sorcery, and bad spirits. Jealousy and envy were most frequently cited as the main reasons for witchcraft and sorcery in the bairro. There was general agreement that people are suspicious of and hostile to neighbors and family members who do better materially than others. In the local economy in which a variety of goods are available but few can buy them, and the distorted international aid economy in which a few individuals in the community suddenly gain access to jobs that pay salaries disproportionate to government salaries and even pay foreign currency, social inequality is aggravated (Pfeiffer, In press). As pregnancy is itself a sign of good fortune and impending wealth in terms of social capital in Mucessua, it has the potential to arouse jealousy and distrust between neighbors and competition between women already sharing the attention and resources of cash-earning men under a variety of formal and informal polygamous arrangements.

Ruptures in kin relationships

In Mucessua, it was widely held that witchcraft and sorcery of any sort cannot cause harm unless the victim is indeed guilty of a crime against the aggressor or unless a member of the family of the victim is involved. Ancestral spirits called wadzimu in Chitewe were reported to operate against members of their own family, for example, the spirit of a parent who was abused or struck by a child who seeks revenge after death. When angered, kin spirits can cause illness and misfortune among their descendants by withdrawing their protective powers. When this occurs, an unprotected person, a person outside of the correct relations with dead and/or living kin, can become the target of all sorts of hazar (ill fate, harm, Portuguese). Threatening the next generation by targeting reproductive health is a good way for angered ancestors to get the attention of living lineage members. If a woman arouses the anger of her maternal ancestors, she can expect to be punished by ruptures in good health, especially reproductive health of living female kin.

In one case study, 19-year-old Sonia privately accused a spiteful aunt of using witchcraft to cause problems in her second pregnancy. In her eighth month, Sonia began to have severe pains in the bottom of her abdomen. She went to the maternity clinic, but was not offered any treatment, only told to come back the next month to give birth. Her husband took her to a prophet. The prophet brought forth a spirit from Sonia’s body that spoke through Sonia’s mother, pointing out tensions between family members gathered for the ceremony. One aunt in particular became especially agitated and expressed a wish to die. Sonia believed that same aunt had sent a spirit to harm her:

My mother’s sister sent this spirit. She has a crazy daughter and a crazy son. She has hate. The spirit told me that it does not want me to give birth. This aunt is bad. She is also a curandeira. This sister of my mother had an eldest daughter. Her mother sent a spirit to make her go crazy. She stayed crazy. Up to today she is still in her mother’s house. (I asked for more explanation here.)

(The daughter) had married a soldier and moved into his house. But when (my aunt) drank she arrived at the house and insulted her daughter and son-in-law. She said, “You are showing off. You did not pay me my lobolo money. You already have a husband, but you do not want to see me, do not want to give me any money to buy capulana (traditional cloth), stew. As it is with my mother and father, I also want (bridewealth).” As a result of her mother’s insults and curses, the daughter became crazy forever. After this, the husband said that, “Now that you made your daughter go crazy, I no longer need her,” and

Payments of respect and paying for disrespect

Breaches of traditional payments of respect and duty of children to their parents are also perceived to pose a threat to reproduction. For example, in cases of a grown child’s unsanctioned union or unsanctioned pregnancy, parents may threaten to withdraw material and spiritual protection, an act that symbolizes the strain created by interruptions of intergenerational cycles of social and economic indebtedness. Tension over unpaid, insufficient, or improper appropriation of lobolo (brideprice) or massangiro (seduction fee) payments⁸ that ensure the distribution of social and material wealth between generations of lineage and marriage-related kin frequently leads to family disharmony. This imbalance in social well-being is communicated between generations by ruptures in good health, especially reproductive health of living female kin.

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⁸Bride price (lobolo) is a transfer of goods, labor, and/or cash from a man’s lineage to the lineage of his wife in payment for rights to her sexual and domestic labor and rights to children. A seduction fee (massangiro) is the payment made to the parents of a woman by her first sexual partner as a token of intention to pay the rest of lobolo for marriage or payment for “damages” acknowledging a lowering in the brideprice to be drawn for a woman who is no longer a virgin (Steward, Ncube, Maboreke, & Armstrong, 1990, p. 194).
sent the girl home without *lobolo* (Sonia, age 19, 2 preg., 2 child).

Sonia believed that out of bitterness of having been cheated out of her own daughter’s *lobolo*, her aunt was trying to ruin her (Sonia’s) reproductive health. Sonia’s father-in-law has paid a seduction fee to Sonia’s parents, but her young husband has not yet earned enough to pay bridewealth. Because of this unpaid sum, Sonia worries about her ability to protect her 3-year-old first son’s health from witchcraft attack:

My husband is trying to arrange *lobolo*. But, at times (my son) Jaimecito is not well at night. At night his body heats, and he cries. As soon as morning arrives, it stops. *Curandeiros* are accustomed to keeping the lights burning until morning. I don’t know if it will come again at night. I’m usually afraid.

The pregnancy beliefs and practices of women in Mucussua reflect their own and others’ attempts to assert control over the outcome of pregnancy under conditions of reproductive vulnerability they experience at multiple levels.

**Fetishismo and the commoditization of childbirth**

Social tension related to payments of respect to midwives is also a serious threat to women during pregnancy and childbirth. Though oral histories collected suggested that the use of non-family midwives seems to be on the decline, midwifery was traditionally a highly respected health specialist role in the area. Women who earned the reputation of being excellent midwives were known to have special skills in delivering babies but also in helping sort out the many kinds of social complications that could occur during childbirth. The ceremonial power associated with assisting a birth is so strong that women who perform births are believed to lose their eyesight from having seen so many births, unless they are protected with traditional medicines. Substantial gifts of wine, corn meal, cloth, maybe soap, and increasingly, cash are given to birth assistants, and an ongoing relationship of social and material indebtedness is established between the mother and her birth assistant.

Pregnant women described their belief that because of this potential to profit from assisting a birth, there is a growing competition in Mucussua between women eager to fill this role. In the crowded *bairro*, pregnant women feared strangers, neighbors, even jealous relatives who might be vying for the role of birth assistant for material gain, and who could resort to sorcery to achieve this end. By using sorcery to provoke a problem during childbirth, such as breech presentation or retention of the placenta, the person who has caused the problem must be summoned to the bedside of the woman in childbirth to undo the magic she has used. Failure to call that person can result in the serious injury or death of the mother and/or infant. Joanna, a woman in the case study group offered the following story as her explanation of this trend:

Long ago we never thought of going to the hospital to give birth. An assistant had the right to a *capulana* (traditional cloth wrap), a belt, a plate, 51 of wine, soap, flour. When it happens within the family, do you think all this is going to happen? A person from outside, to succeed in having all of this will even do witchcraft. Now, it is said if something bad happens when you are alone with your mother, they say it is because you didn’t invite someone who could know how to treat it. And so, now you have to invite someone else. If you have ten children, you have ten assistants.

Now many people are going to the Maternity, because if you do not call the person in the zone who wants to serve as your midwife, you are not going to give birth until people call the prophet or *curandeiro* to say the name of this *velha* (old woman, Portuguese). As soon as she arrives, you give (birth). For this reason many people are going to the hospital (to deliver). What angers the person is if you call someone else, or even more when you go to the hospital. Everyone loses. After you give birth you have to gather up everything you have in your home, money, food, *capulana*, and give it.

When I was pregnant, a prophet told me that a woman, short and dark-skinned, wanted to assist me. I went to that prophet to find out why I was always sick and in pain. The prophet said that someone was waiting to assist my birth, and if I did not call her on the day of birth I was also going to really suffer. And so, I went when it was dark to the hospital to give birth to avoid this person. That woman was scared and surprised when she saw me already with my baby born (Joanna, age 38, 4 preg., 2 loss., 2 child).

Joanna’s sister-in-law, Marida, was not so lucky. From the beginning of her pregnancy she suspected that her elderly neighbor was closely watching her pregnancy progress, waiting to take part in the birth. On the day she went into labor, Marida had been doing her work in her courtyard but had finally gone inside to avoid her neighbor’s inquisitive stares.

I felt this neighbor (was saying), “You are suffering with (labor) pains. Now you have to say (my name).” When I was seated inside my house the day itself, the old woman stayed seated to wait in her house to come assist. I stayed inside and then called to my husband to wash my shoes for going to the Maternity, but I felt the baby already coming out. I delivered alone. When my husband entered he saw the baby already out lying near the corner. But the
jasuri (afterbirth, Tewe) was still inside. I told [my husband] to bring my sister-in-law.

First Jacinta arrived and saw the baby out already and did massage for 15 min for the rest to come out. After a while, she saw that it still did not come. It is tradition here that when someone wants to assist and you do not call her, (the birth) is always delayed. To treat the handiwork of sorcery that a woman has done to you, you must call her.

In the end we called this old woman to help deliver the placenta. She said she saw I hadn’t come out of my house so she knew it was my time. When she arrived she prayed. She did massage and blessed water with a little salt in it. This was Jacinta’s idea who suffered the same problem. I drank the water that the old woman blessed. She began to do massage and soon pains started. She stayed at it until (the placenta) came out. She had the idea to cut the cord with a millet cane. Jacinta refused and said this creates problems of tetanus and went to bring a new razor blade from her home. Jacinta cut it. The neighbor showed her how. Now I have to organize a capulana, soap because she touched the child, money and flour. It is for this that people do this (sorcery), for these goods (Marida, age 27, 6 preg., 2 loss., 4 child).

Pregnant women’s fear of others using sorcery to gain access to their childbirth is so pervasive in the community, that friction between neighbors is frequently interpreted as a potential reproductive threat, and measures are taken to avoid harm. When pregnant Juliana argued with her neighbor, she suspected at once that the woman was trying to find a way to assist her birth:

When I was 6 months’ pregnant I got treatment at the prophet (Zion Apostle). You see, there are those who want to assist (the birth). I was arguing with my neighbor, and we exchanged words that were not pretty. She was very mad, so later her husband came to beat my husband. Even after that she was full of rancor saying, “I want to see you on the day of your birth.” That is what I heard from the prophet. (My husband and I) went to learn if I had whatever thing in my body put there by sorcery. It appeared in the (prophet’s) vision that I had argued (Juliana, age 25, 3 preg., 0 loss., 3 child).

Ironically, prophets who diagnose this problem in their patients are often asked to assist in births potentially jeopardized by intervention of others using witchcraft or sorcery. A debt of respect that a woman might wish to avoid in the first place is thus created between the woman and her prophet. Payments to prophets, however, are almost always described as “gifts” and not payments.

Social conflict and economic tension as reproductive threats

Changing social organization

Women perceive that personalistic reproductive threats derive primarily from the breakdown of social networks and kin relationships. A comparison between observations of the current living situations of women in the study and their descriptions of their mother’s living situation when they were growing up suggests that the size of households and nature of domestic organization has shifted significantly in recent decades. Due to migration for work in cities and towns and massive dislocation during the war, rural populations have crowded into peri-urban squatter conditions. Women describe having gone from living in large, extended, multi-generation, patrilocal, and frequently polygynous households and compounds of fathers, uncles, brothers and then husbands, to living in small, nuclear, single or two generation households establishing new patterns of neolocal residence. In this new setting women are experiencing great social vulnerability. They bemoan not having the agricultural and domestic help their mothers had from sisters-in-law, aunts, and even co-wives, especially during pregnancy.

Changing economic basis of subsistence

In addition to feeling increased social vulnerability, women reported and were observed to be extremely economically vulnerable. They need cash to survive, and yet have few means of generating cash that they control due to lack of wage paying jobs for women and little surplus to generate cash in the informal sector. In the current cash economy, even land that was traditionally distributed through lineage males to wives and daughters on a need basis is now increasingly bought and sold in a formal and informal land market. While land shortages for the fast growing peri-urban populations like Mucussua are increasing (MAARP, 1993), women, without cash capital, cannot compete. Further, former traditions of cooperative, community-based labor exchanges and labor rotation schemes, utilized especially by women to expand or intensify crop production, have become extinct as individuals will only sell their labor for cash. As most women, even those with informal labor jobs themselves, do not have enough cash for basic household needs, most are also left without means of employing others. None of the women in the study reported helping another woman in her fields and no women received agricultural labor assistance from anyone outside her husband and children during pregnancy. Yet only 9.6% (8) of study families had harvested sufficient staple grains to last through to the next harvest without purchasing grain. All but 11 women in the study reported that they were directly or indirectly dependent on male cash resources. In 65%
Changing relations of social reproduction

Women in the case study group reported that overall, there were increasingly fewer traditionally sanctioned marriage unions bringing two lineages in formal contract with each other through payment of lobolo. Lobolo is a transfer of wealth from a man’s family to a woman’s family in acknowledgment of their costs of raising her and formalizing the transfer of rights in the woman’s productive and reproductive labor to his lineage. Part of the lobolo agreement is that the woman will give birth to children who will be members of their father’s lineage. Traditionally, lobolo payments extended over a long period throughout a marriage and included exchanges of labor, cattle, gifts and metal tools that passed through lineages from sister to brother. The lobolo payment must be returned if the marriage ends in divorce, especially in the case of infertility. Both men and women in Mucessua agreed that the institution of lobolo had not eroded since Independence in 1975, but merely gone underground. The number of marriages in which brideprice is paid was declining, they observed, because young men were less frequently able to amass the going rate of lobolo payments had inflated in the current austerity-program economy and, when paid, was paid in large sums of cash quickly spent, or comendo (eaten) by in-laws.

In this environment, women reported feeling pressure to decrease customary post-partum sexual abstinence periods of up to 2 years, to as little as 3 months. This is done to quickly give birth to children who survive in order to repay this cash advance that cannot be returned if the marriage proves unsatisfactory. Divorce would leave a woman’s parents, who have often “consumed” the lobolo payment immediately, with a debt they are unable to repay. Nevertheless, every woman in the sample argued that although they felt personally burdened by lobolo, they would insist on receiving lobolo for their daughters. Lobolo was one of the few socially sanctioned ways women envisioned themselves getting cash they would control. As one woman in a focus group mused, “We pray for one boy to take the father’s name, and then a whole train of girls following behind for lobolo.”

Another shift in social reproduction accompanying the decrease in formal marriages is the decrease in the number of polygynous compounds. Women pointed this out while complaining that many men still establish several, but geographically separate, nuclear households with a mulher d’esquina, an “around-the-corner woman”, or “other woman.” With this informal kind of polygamy, women fear they are competing for men’s material resources, especially cash incomes, with women they frequently do not know, may never have seen, but whom they worry may try to harm them and their pregnancy with sorcery or witchcraft and steal their man completely. Sexual rivals are frequently suspected of targeting reproductive health since a woman who cannot produce children who survive will often be divorced or abandoned for a more fertile partner.

Discussion

In Mucessua, folk epidemiologies trace the distribution of reproductive crises not in terms of medical risk categories, but in terms of embodied and dangerous social encounters. In contrast to the multiple layers of social meaning expressed in women’s responses to reproductive risks, formal biomedical services reflect a narrow concern for the control of women’s fertility using a medical definition of pregnancy and obstetric risk factors. Women in Mucessua view these services as inadequate to respond to salient reproductive threats and pregnancy health needs. Under these circumstances, delaying initiation of consultations in the maternity clinic until late in pregnancy is frequently a conscious and, from these worried mothers’ perspective, a conscientious prenatal care strategy. Ironically, delaying care in the maternity clinic early in pregnancy can be interpreted as a preventive and protective health activity within the context of women’s conceptions of their own reproductive vulnerability. Women purposefully delay entering the biomedical system in an attempt to reduce reproductive risks that they perceive stem from public knowledge of their pregnant condition. By initiating clinic-based prenatal consultations late in their pregnancies, they circumvent national norms and relegate formal biomedical services to a marginal role in safeguarding or guaranteeing community continuity through children.

Early in pregnancy, non-medically trained popular providers of reproductive health care such as prophets, pastors, and, occasionally, traditional healers are privileged over medically trained health clinic personnel as sources of authoritative reproductive knowledge and therapeutic processes that address meaningful aspects of women’s experiences. In this case, these include experiences of social tension, economic instability, and the reproductive vulnerability that these conditions engender. Reliable data do not exist that might substantiate whether formal prenatal care use in this community is increasing or declining, or whether women’s articulation of social and economic vulnerability in terms of personalistic threats to reproductive health is a growing phenomenon. This study does suggest that in the current context of economic insecurity exacerbated by congested
living conditions, an account of how women seek protection from pregnancy threats they believe are related to social and economic vulnerability helps to explain patterns of delaying and underutilizing formal prenatal care services.

The Gondola data also challenge the characterization of high-risk women in developing countries as unmotivated and/or non-compliant victims. On the contrary, under conditions of frequent reproductive morbidity and loss, little access to cash, immense domestic and agricultural work burdens, and limited routes to female social and economic self-determination, many women demonstrate significant initiative in mobilizing the resources they deem necessary to influence their own reproductive labor and decrease the odds of poor pregnancy outcomes. It is not argued here that women’s options for prenatal health care outside of the biomedical sector are necessarily beneficial or more capable of treating pregnancy and obstetric complications. Further research on the alternative therapeutic procedures identified by women in the study is needed to identify their negative, neutral and positive affects on reproductive health. While use of caustic, lye-based soap products during pregnancy to prepare the birth canal might be appropriately discouraged, massage of the perineum may be both physiologically and emotionally helpful to women in labor. Baths in holy water often prescribed by prophet healers throughout pregnancy may or may not have any physiological effect, but seem to guarantee a frequency of prenatal visits not currently achieved in clinic attendance. Such information could be used to inform public health messages, as well as direct areas of possible collaboration between formal and informal sector health providers.

The biomedical system could more effectively promote prenatal service use by integrating local idioms of protection into health messages. Activities of the maternity clinic such as anti-tetanus vaccinations, vitamin supplementation, blood screening, and treatment for sexually transmitted infections are all compatible with women’s desire to protect their unborn children from harm and need to be advertised as such. More importantly, however, health care givers in the formal sector must recognize the sensitive nature of pregnancy and reorganize the delivery of services to provide confidential prenatal care.

The implications of these findings for public health are important, since women’s beliefs seem to have a bearing on delays in prenatal health seeking from health facilities. In this study explanatory models were found to be significant influences on women’s perceptions of reproductive health risks. These findings are consistent with those of several recent studies of reproductive health of women in Third World countries. For example, in Nigeria, Adetunji (1996) also found that Yoruba women preferred “traditional” over “modern” prenatal care because, “the traditional prenatal care included ideas of physical as well as metaphysical sources of illness and tried to combat both, whereas the modern care focuses only on the physical” (p. 1566).

Ethnomedical beliefs alone, however, are not sufficient to explain patterns of women’s prenatal health-seeking behavior. Looking at pregnancy and childbirth management in Nigeria, Asowa-Omorodion (1997) identifies the importance of local health beliefs.

(T)he Esan people often see most health problems arising from one’s sins. Illnesses are believed to be caused by unnatural events (Omorodion, 1993). Hence complications in pregnancy are often assumed to be the result of the woman’s sins, such as having committed extra-marital affairs, or bewitching their spouses. The researcher believes that because of these interpretations of illness, the men are often lukewarm over providing financial assistance or allowing the woman to seek the best treatment even preferring the woman to die for her sins. The women tend to accept complications in pregnancy and after delivery as punishments for their sins (1997, p. 1823).

The author goes on, however, to elaborate the link between ethnomedical beliefs and women’s gender-related economic dependence on men. These women “lack access to the means of production, and they certainly cannot control it despite the fact that they provide most farm labor” (p. 1823). Jirojwong’s study of Thai women and pregnancy (1996) also finds that women’s perceptions of susceptibility to and severity of illnesses during pregnancy contribute to women’s underutilization of biomedical prenatal services and support the use of alternative prenatal care providers. The author concludes, however, that economic and social pressures, including poor treatment by biomedical personnel, also account for delayed and inadequate prenatal care in the biomedical sector.

On the other end of the spectrum, attention to ethnomedical beliefs should not be absent from studies of reproductive health management strategies. For example, Schmid et al. (2001) document the need for emergency transport to improve obstetric outcomes for women experiencing complications in home deliveries in rural Tanzania. Facilitating access to emergency obstetric care for poor women in developing countries is a critical problem that must be addressed. However, by leaving unexamined the patterns and underlying reasons for home delivery and delayed transferal of women with obstetric emergencies, such studies may be omitting key economic and social negotiations that precede and contribute to the progression of an obstetric emergency. The reasons for delay need to be scrutinized (Asowa-Omorodion, 1997) as well as the broader context of rural
Tanzanian women’s economic, social, and physical vulnerability.

Analysis should not stop at the level of explanatory models without attempting to link culturally shared beliefs to the political economic context of the social actors. This would leave out crucial aspects of social relations of production and reproduction in the region that inform women’s reproductive health beliefs and pregnancy health-seeking behavior. An analytical model that takes into account individual experiences, socioeconomic conditions, and the structure and practices of the health system in historical perspective, not only allows for greater insight into the formation of explanatory models and their influence on health strategies, but begins to reveal the mechanisms by which both risk perceptions and health strategies might change over time (Atkinson et al., 1994). More importantly, such an approach can begin to expose the fundamental causes of health burdens and their unequal distribution within and across communities in ways that help direct much needed health interventions.

It is concluded that prenatal services based on assumptions that the greatest threats to reproduction are physiological processes, and not social and economic relationships, are inadequate to address women’s needs for safe motherhood in an environment of intensifying social inequality and increasing pressure to bear children. These data suggest that the mere provision of prenatal care services may be insufficient to reduce reproductive risks for the most socially and economically marginalized since this vulnerability may prevent women from using available services. While key modifications in maternal health care programs are essential to improving Safe Motherhood in Mozambique, women’s reproductive vulnerability ultimately lies beyond the scope of medical or even public health solutions alone (Turshen, 1991). Health services designed to ensure Safe Motherhood in Mozambique may continue to be underutilized by those who need them most while women remain without economic security, education, and access to services that reduce their social and economic marginality.

Uncited references

Hill, Abou-Zahr, and Warlaw (2001); Instituto Nacional de Estatística (1999a); Instituto Nacional de Estatística (1999b); World Health Organization (1985).

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