

HEALTH CARE EXPERIENCES OF LOW-INCOME SOUTH INDIAN WOMEN:
USING SOCIAL RELATIONSHIPS TO NEGOTIATE PHYSICAL, FINANCIAL AND
INFORMATIONAL CONSTRAINTS

BY

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THESIS

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Abstract

India is a developing country that has pledged significant resources toward improving health care access for underprivileged citizens. Maternal well-being is a highlight of the government's health care initiatives, especially in the state of Tamil Nadu where health care innovations and maternity assistance benefits for low-income women have become a model for the country. Despite improvement on key maternal health indicators over recent years, these health outcomes still lag behind those of more developed nations. In light of this maternal health outcome disparity, it is important to examine factors which may prevent low-income Indian women from accessing health care, as well as those factors which enable them to do so. Understanding such nuances in maternal health care access can impact the design of health system attributes and health initiatives which can better promote maternal well-being. This study draws from health care decision-making and health system frameworks as well as social relationship literature across disciplines to explore how low-income Indian women residing in Tamil Nadu understand and navigate their health care landscape. A convenience sample of 23 low-income women residing in Tamil Nadu, India were identified through snowball recruiting. Of these, 21 were mothers of young children or expecting mothers and two were key informants. Ages ranged from 20-35 years for current and expecting mothers. Study participants were interviewed using a semi-structured protocol. Data were analyzed using a Grounded Theory approach. Results show that these women encounter physical, financial, and informational constraints to health care decision-making and health care access. The study further finds that women utilize social relationships to assist in overcoming these constraints.

To Mom, Dad, and Andrew

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Chapter One: Introduction

Health-related decisions are often complex and multifaceted, involving multiple stake-holders (e.g., family members, health care professionals, and self) and trade-offs (e.g., cost vs. perceived quality). These decisions can be further complicated when the decision-maker does not have access to sufficient information, understanding, or experience required to fully analyze her available options. These constraints may be shaped by contextual matters such as a state's health policy, which affects economic constraints (i.e., an individual, region, or country lacking resources to pay for desired care) and health facility accessibility (e.g., lack of health infrastructure and/or the inability to travel to existing facilities due to time, childcare needs, or cultural norms). However, the use of social relationships to buffer these constraints and to promote health and well-being has been described in the literature (for review see Cohen, Underwood, & Gottlieb, 2000). In order to better understand how individuals navigate their health care needs despite various constraints, the present study focuses on (low-income) individuals living in "resource-poor but network [relationship]-rich" subsistence communities in Tamil Nadu, India (Viswanathan, 2011, p.111).

India is a country experiencing tremendous growth in terms of both gross domestic product (GDP) and population. However, a significant portion of the population lives below the national poverty line (42% in 2005, \$1.25 USD per day) (World Bank, 2011). Although key indicators for development (as identified by the Millennium Development Goals) have shown substantial improvement in India – including the Maternal Mortality Ratio – related indicators such as the proportion of deliveries attended by skilled health personnel are still distressing (World Health Organization [WHO], n.d).

The state of Tamil Nadu in southern India has recently targeted maternal well-being in its health initiatives. One example is a Maternity Assistance program which gives women who visit government health facilities for maternal care up to Indian Rupees (Rs.) 12,000 (\$240 USD) for each of two pregnancies. Additionally, according to Tamil Nadu's health system, government nurses visit pregnant women in their homes to preform checkups and to tend to the needs of the mother and unborn child free of charge to the expecting mother. Furthermore, maternity and delivery care as well as child immunizations are fully subsidized at government health facilities.

These government supports for maternal health care help shape the health landscape of low-income Indian women. How is this health landscape understood and accessed by women living in subsistence communities, i.e., women likely to experience a high level of constraints to accessing care and making health-related decisions? To examine this phenomenon, the present study used constructivist grounded theory methods (Charmaz, 2006) to explore the following research question in a sample of 23 low-income women living in Tamil Nadu: What are the experiences of low-income Indian women regarding their health care – specifically for maternal health – and how do they make health care and health behavior decisions?

Chapter Two: Literature Review

The present study was informed by several bodies of literature. In this section, I first describe frameworks for understanding the process of health care decision making and access, including the role of health literacy. Second, I present the role of social relationships in the context of health. Within this discussion I also describe the concepts of social networks, social support, and social capital. Third, I depict the context of India and the country's strides toward achieving the Millennium Development Goals (MDGs), focusing on Maternal Health Improvement indicators (MDG 5). Finally I describe the state of Tamil Nadu in South India and its government's maternity assistance benefit.

Health Frameworks

Health care access and decision making are critical components to an individual's well-being. For decades, researchers have examined the processes of decision making and access in health care (Aday & Andersen, 1974; Llewellyn-Thomas, 1995). One health decision framework salient to the present study is that of Llewellyn-Thomas (1995), because it depicts not only the multifaceted intra- and interpersonal factors that contribute to patient decision making, but also the sociopolitical world that shapes what types of decisions available to be made; this context has potential to either induce or constrain decision behaviors. In their framework on health care access, Aday and Andersen (1974) describe this context as being comprised of interrelated variables, such as health policy, which shapes characteristics of the health care system that interacts with individuals to affect health care utilization and outcomes.

Within this larger context are the personal relationships relevant to decision making, such as those between the patient and other stakeholders (e.g., family members, health care providers) (Llewellyn-Thomas, 1995). Each stakeholder brings his or her unique sociodemographic characteristics (e.g., expectations, preferences, and information) to the decision to be made, which has its own contextual attributes (e.g., health state and time). The key components in Llewellyn-Thomas's framework are the "ways in which those perspectives encounter each other... throughout the decision process" and "how information is channelled [sic], blocked, or used..., the motivations that individuals attribute to each other, the assumptions each is making about what the others want and expect from care, and how these elements... affect the processes... of decision making about health care" (p. 103). Importantly, Llewellyn-Thomas's framework recognizes that these decisions and interactions take place within the "extrapersonal sphere" of "institutional traditions, customary referral patterns, resource accessibility and constraints on... acquisition of information..." (p. 103).

One constraint to acquisition of information is literacy; and, specifically relevant to health care decision making is health literacy. Health literacy (HL) is "the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand, and use information in ways which promote and maintain good health" (Nutbeam, 1998, p. 357). Reading ability is recognized as a critical component of HL. Reading ability affects an individual's "ability to seek, understand, and use health

information” and is widely assessed as part of many health literacy measures (Jordan, Osborne, & Buchbinder, 2011, p. 366).

In a study of low-income pregnant women in the United States, low health literacy was found to associate with barriers such as self-care during pregnancy (Shieh, Mays, McDaniel, & Yu, 2009). Additionally, the study found that there was a trend among low health literacy pregnant women to use interpersonal information sources rather than text- or internet-based sources. In their systematic review of HL, Ishikawa and Yano (2008) found that “a lack of adequate functional HL contributes to poorer health and well-being” (p. 118).

Social Relationships and Health

Though an exhaustive review of the vast social relationship literatures is outside the scope of this paper, this section highlights elements of these literatures pertinent to the current study.

Researchers from disparate fields of study have examined the role of social relationships on health and well-being in different ways and have developed related terms to describe features and processes related to social relationships. These include *social networks*, *social support*, and *social capital*. Each of these widely used terms has been described in various manners and with corresponding subcategories and types. For my purposes, I will refer to the 1) social network as the *structure* of interconnected social relationships (i.e., who knows whom and how well); 2) social support as the *function*, or type of support offered by individuals in the social network (e.g., financial, emotional, informational); and, 3) social capital as the *capability* of individuals in the network to supply the desired support.

Empirical studies have established basic associations between measures of social relationships and health and well-being outcomes including depression and anxiety (Husain et al., 2006; Short & Johnston, 1997), health care decision making (Miller-Ott & Durham, 2011), and physical illness (reviews by Reifman, 1995; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). For example, in his review of social relationships and health, Cohen (1988) concludes that social relationships play a beneficial role in health maintenance and disease prevention and that attributes of social networks (e.g., density) and social support (e.g., adequacy and source) should be considered independently in their potential to impact health.

It is important to note that “the associations between social relationships and health are complex” and that “social contact, social interaction, and the provision of social resources are not always health protective” (Cohen et al., 2000, p. 4). For example, “the provision of aid... can have detrimental effects on a recipient when the source or type of aid is inappropriate” (Cohen et al., 2000, p. 5).

India and the Millennium Development Goals

India is a democratic country in South Asia with a population of roughly 1.2 billion, 30% living in urban areas (Government of India, 2011). The country is sectioned into twenty-eight states and seven union territories with large regional cultural and linguistic differences (Government of India, 2011). In

addition to these differences, there is also a wide disparity in the socio-economic levels of its population, both between and within the various regions (Pal & Ghosh, 2007).

With 42% of the country's population living on \$1.25 USD or less per day, poverty is a concern in India despite its recent economic advances (World Bank, 2011). Living in poverty has been associated with poor life outcomes, such as health, well-being, and educational attainment (for review see Bambra et al., 2010). To help address the detrimental effects of living in poverty around the globe, the MDGs were adopted by world leaders in 2000. The eight MDGs range from providing universal primary education to halting HIV/AIDS spread to halving extreme poverty by 2015 as compared to 1990 levels (United Nations, n.d.).

Underscoring the importance of (and focus on) maternal and child well-being around the world, at the recent 2010 Summit of the MDGs, “a number of Heads of State and Government from developed and developing countries, along with the private sector, foundations, international organizations, civil society and research organizations, pledged over \$40 billion in resources over the next five years” specifically to “accelerate progress on women's and children's health” (United Nations, n.d., 2010 Summit section, para. 1). MDG number 5, Improve Maternal Health, has a target of reducing the maternal mortality ratio (MMR) by 75% between 1990 and 2015 levels. Indicators for this target are the MMR as well as the proportion of births attended by skilled health personnel (United Nations Millennium Project; 2006). MMR is the “death of a woman while pregnant or within 42 days of termination of pregnancy” per 100,000 live births (WHO, n.d., Definition section, para. 1). The global MMR has improved from 400 to 206 between 1990 and 2009. However, according to WHO estimates, the MMR of India was 230 in 2008 (interagency estimates of 150-350 per 100, live births).

While some important key health indicators are improving in India (e.g., maternal mortality ratio, under-5 mortality rate, children under-5 stunted) and per capita total expenditure on health is increasing, other standard measures of health for the country are low, even when compared to regional averages (e.g., antenatal care and births attended by skilled health personnel; see Table 1). These concerning levels are even more drastic when the care received by different populations is examined separately; for example, there are stark inequities in health service utilization, immunization and under-5 mortality rates in India between the Poorest 20% / Wealthiest 20% and Urban / Rural populations (WHO, n.d.).

Table 1

Selected Health Indicators: Comparison of India, South Asia and the United States

Indicator	India	Southern Asia Region	USA
Maternal Mortality Rate, per 100,000 live births			
1990	570 ^a	-	12 ^a
2008	230 ^a	290 ^b	24 ^a
Infant Mortality Rate, per 1,000 births			
1990			
2010	81 ^c	86 ^c	9 ^c
	48 ^c	55 ^c	7 ^c
Births attended by skilled personnel			
2006	-	-	99.4% ^d
2007-2008	46.9% ^d	-	-
Antenatal Care Coverage			
At least 1 visit	80% ^e	70% ^f	-
At least 4 visits	50% ^e	45% ^f	-
Central government expenditure allocated to health	2% ^g	2% ^g	24% ^g
Total fertility rate (births per woman)			
2000	3.3 ^d	-	-
2009	2.7 ^d	-	2.1 ^d
Literacy Rate	61% ^h	-	99% ^h
	63% ⁱ	61% ⁱ	-

^a WHO, 2012^b United Nations International Children's Emergency Fund (UNICEF), 2011^c UNICEF, n.d.^d WHO, 2011^e 2008 data; WHO, 2011^f Data refer to the most recent year available during the period 2005-2009; UNICEF, 2011^g Data refer to the most recent year available during the period 1998-2008, UNICEF, 2011^h Central Intelligence Agency, 2012ⁱ Data refer to the most recent year available during the period 2005-2010; UNICEF, 2011

India has implemented several nation-wide initiatives to better maternal health. One is the Indian Family Welfare Program which is focused on family planning and maternal health (Koenig, Foo, & Joshi, 2000). As part of this program, health centers (with facility and service offerings correspond to population density) must be functioning at defined levels of care and a female auxiliary nurse / midwife should visit “every household within her work area at least once in two months to provide family welfare services, including disease surveillance, maternal and child health information and services, motivation for family planning, and the provision of some types of contraceptive methods” (Keonig et al., 2000, p. 2). However, some health center positions go unfilled due to financial constraints (Keonig et al., 2000).

Tamil Nadu

The state of Tamil Nadu is situated along the south-eastern coast of India and has a population of over 7.2 million (Government of India, 2011); the local language is Tamil. The sixth most populous city in India, Chennai (formerly Madras), is the Tamil Nadu seat of government and has a population of nearly 4.7 million. According to 2011 Indian Census data, 48.5% of Tamil Nadu’s population lived in urban areas. Additionally, the population of Tamil Nadu increased over 15% between 2001 to 2011, with an urban population increase of 27% during that period and nearly 10% of the population between zero and six years old. As of the 2011 census, the sex ratio at birth in Tamil Nadu was 946 females per 1,000 males (Government of India, 2011). Despite having a higher sex ratio than the country as a whole – 933 from – this statistic still suggests a cultural preference in Tamil Nadu for sons than daughters and was even lower (937) for rural areas of than for urban (957), indicating the often drastic differences between urban and rural family structures, even within the same state.

Though literacy and educational enrolment is on the rise in India, concerns of overcrowding (such that school enrolment numbers will increase) and resulting low-quality education have been raised (Pratham, 2012). For instance, in rural areas of Tamil Nadu less than 70% of eighth-graders can read at a second-grade level (and only 20% of third-graders can read at a first-grade level). While reading abilities are somewhat greater for students (tested at third and fifth grades) in private versus government schools, the percentage of children unable to read at a minimum level are abysmally high even in private schools in Tamil Nadu (Pratham, 2012). This is despite the fact that in Tamil Nadu, teacher absence from government schools is better than the country weighted average: 21.3% versus 24.8% (Kremer, Chaudhury, Rogers, Muralidharan, & Hammer, 2005). Literacy rates in Tamil Nadu differ drastically between urban, rural, male, and female, with that of Urban Males being the highest (87%) and Rural Women being the lowest (66%) (Government of India, 2011).

Given that reading ability is linked to HL, and that low HL contributes to poorer health and well-being, the low reading abilities (Pratham, 2012) are cause for medical concern, especially in light of recent findings showing that “maternal education exerts a significant influence on the utilization of maternal healthcare services” among rural, 15-19 year old married Indian women (Singh, Rai, Alagarajan, & Singh, 2012, p. 9). Furthermore, in Tamil Nadu education level—not only of the expecting woman but

also of her husband—was associated with adequate utilization of antenatal care facilities among rural women (Nielsen, Liljestrand, Thilsted, Joseph, & Hedegaard, 2001).

Despite the relatively low standard of education in Tamil Nadu, some markers indicate better health outcomes compared with other Indian states or with the country as a whole. For instance, in their review of the Indian Family Welfare Program, Koenig et al. (2000) report that compared with some northern states, a greater percentage of women surveyed in Tamil Nadu reported having been visited by a female paramedical worker (within the previous three months), which is associated with an increase in utilization of maternal care services (Singh et al., 2012; Sunil, Rajaram, & Zottarelli, 2006). Furthermore, the review reports that Tamil Nadu performs relatively well on post natal care delivery (roughly 90% of mothers received post natal care within two weeks of delivery) (Government of India, 2009). This compares with other states ranging from below 30% to nearly 100%. According to Nair and Panda (2011) Tamil Nadu has established a commendable medical supply corporation that assists with “efficient procurement, management, and monitoring of supply chain systems... for equipment and drugs for essential maternal health services” (p. 85) which are lacking in the health centers of many Indian states. In fact, the Indian government encourages other states to adopt the Tamil Nadu Medical Services Corporation model to ensure efficient availability and delivery of needed drugs (Government of India, 2007). Indeed, the Indian government considers several aspects of Tamil Nadu’s health services to be models for the country and recommends that all states adopt Tamil Nadu’s wide-spread round-the-clock health center operation (Government of India, 2007).

In addition to having the lowest cost per hospitalization in the country (rural: 637 Rp; urban 1666 Rp), Tamil Nadu has lower MMR, infant mortality rate, and fertility rate than other states which spend more on health care (Government of India, 1997, 2007). (See Table 2 for a comparison of Tamil Nadu and the state of Haryana, which spends more on family well-being programs but exhibits worse health outcomes.) This could be due to the relative political will (Balabanova, Conteh, & McKee, 2011) and the relative lack of corruption (Government of India, 2007) in Tamil Nadu. For instance, the state developed not only regulations regarding monitoring and reporting maternal deaths, but also training programs to ensure that health workers understood and complied with the regulations. These initiatives have helped identify systemic gaps that have led to health delivery improvements in Tamil Nadu (Balabanova et al., 2011).

Table 2

Selected Health Indicators: Comparison of Tamil Nadu and Reference State (Haryana)

Indicator	Tamil Nadu	Haryana
Expenditure per eligible couple under Family Welfare Programme, Indian Rs., 1992-93	72.87	97.28
Infant Mortality Rate, per 100,000 births, 1992-93	67.7	73.3
MMR, per 100,000 live births Data collected 2007-2009	97	153
Fertility rate		
1991	2.2	4.0
2010	1.7	2.3

Note. Statistics from Government of India (1997).

This political will has led to a variety of state government benefit “schemes” such as the Doctor Muthulakshmi Reddy Maternity Assistance Scheme (DMMAS). The DMMAS was launched in 1987 in Tamil Nadu and was initially a one-time grant of Rs. 300 (\$6 USD) to assist with childbirth-related expenses (Public Health Resource Network, 2010). This amount grew to Rs. 6,000 (\$120 USD) in 2006, and in late 2011, the amount was increased to Rs. 12,000 (\$240 USD), allocated in three Rs. 4,000 (\$80 USD) installments. The first is intended to be disbursed prior to delivery (at the seventh month of pregnancy) conditional on receiving designated prenatal care; the second is at the time of delivery; and the third, following the dose of child immunizations. This benefit is intended for only Below-Poverty-Level individuals (BPL “ration card” holders) whose families obtain a family income certificate; however, recognizing that this is a hardship, the government decided to relax this condition and began providing assistance to women based on the recommendation of the government health nurse.

Often the government health nurse relied upon to make the eligibility determination is an outreach nurse who visits women in their homes throughout pregnancy. This system of outreach nurses is set up such that women, upon learning that they are pregnant, visit a government health care facility to register their pregnancy (and provide additional information such as their residence). Once registered, government nurses visit women in their homes once per month. Implementation (and success) of government outreach programs varies throughout the state.

Such governmental support for maternal health has furthered progress toward achieving the MDGs in Tamil Nadu and across India. However, tremendous improvements in maternal and child health (among other areas, such as education) remain to be made, especially among low-income populations. What, then, are the experiences of low-income Indian women in seeking maternal health care? How do they negotiate their health care landscape? Upon what resources do they draw, if any? How might commonly used health utilization and health decision-making frameworks help to describe low-income

Indian women's experiences? The current study seeks to fill gaps in our knowledge of these health care processes.

Overview of Current Study

The purpose of the present study was to examine how the Tamil Nadu health landscape is understood and accessed by women living in subsistence communities – women likely to encounter high constraints to receiving care and making health-related decisions. Using constructivist grounded theory methods (Charmaz, 2006), I examined the following research question: What are the experiences of low-income Indian women regarding their health care – specifically for maternal health – and how do they make health care and health behavior decisions?

Chapter Three: Methods

Sample

Participants (all female, $N = 23$) were first-time expecting mothers ($n = 5$), mothers of young children (not pregnant at the time of the study, $n = 14$), mothers of young children (pregnant at the time of the study, $n = 2$), or key informants ($n = 2$) residing in the state of Tamil Nadu in south-eastern India (Table 3). Expecting and current mothers in the study ranged in age from 20 to 35 years old ($M = 25.8$). All self-identified as married. Their educational levels ranged from 3rd standard (similar to 3rd grade in the American system) to a university business degree, though aside from the university-educated individual, none of the other mothers/mothers-to-be had advanced past 10th standard (removing the university-educated outlier: $M = 7.3$ standard). Self-reported nuclear family monthly incomes ranged from 2,800-12,000 Indian Rupees (equivalent to approximately \$56-\$240 USD), with within-family monthly amount variability due to season (e.g., rainy) and daily job availability (e.g., agricultural and construction labor). The most common occupation of the respondents was housewife, though part-time daily wage labor (agriculture, $n = 2$, or construction, $n = 1$,) and non-wage agriculture labor (on family land, $n = 1$) was also reported. Respondents had between zero to three children (those with zero children were pregnant at the time of the study).

Table 3

Respondent Characteristics

Pseudonym	Age	Education Level	Income per Month (Rs.)	Number of Children	Pregnant at time of study
Kalyani	27	University	12,000 \$240 USD	0	Yes
Urvasi	23	10	7,000 \$140 USD	0	Yes
Ganga	24	10	8,000 \$160 USD	1	No
Renuka	24	10	6,000 \$120 USD	2	No
Ramya	23	5	No Data Available	2	No
Rama	22	5	10,000 \$200 USD	2	No
Vadivu	28	3	3,500-5,250 \$70-105 USD	2	No
Kalvi	25	8	2,800 \$56 USD	1	No
Gowri	25	5	5,000 \$100 USD	1	No
Amba	25	8	7,000 \$140 USD	2	No
Anu	32	10	8,000 \$160 USD	2	No
Devika	20	7	7,000 \$140 USD	0	Yes
Rajshri	26	6	7,000 \$140 USD	3	No
Vellama	29	7	10,000 \$200 USD	1	Yes
Radhika	35	5	3,750 \$75 USD	2	No
Suleka	30	6	5,000 \$100 USD	2	Yes
Rangamma	24	8	9,000 \$180 USD	0	Yes
Bairavi	24	6	10,000 \$200 USD	3	No
Madhavi	20	10	10,000 \$200 USD	0	Yes
Nirupama	25	10	9,000 \$180 USD	1	No
Pavithra	30	7	4,500 \$90 USD	2	No

Procedure

Field research was conducted in Tamil Nadu, India, and is part of a larger study which has spanned more than a decade in this setting and which has obtained University of Illinois IRB approval to protect the participants' rights. Participants were recruited via convenience snowball sampling: the long-term research associates (living and working in Tamil Nadu) contacted members of women's self-help groups, which the research team has worked with in the past. These women were able to recommend women in their communities who were pregnant or had recently been pregnant. These women were contacted face-to-face by a research associate and informed about the study.

Informed consent was obtained verbally from those who agreed to participate. When granted permission from the respondent, the interviews were audio recorded and lasted between 30 to 75 minutes. Field notes were taken during the interview and the audio recordings were consulted during analysis if clarification of the notes was needed. The interviews took place in Community-Based Organization offices and participants' homes. In order to assure confidentiality, names were replaced with pseudonyms (linking information is accessible only to myself, my advisors, and the Tamil research team). Participants received a small monetary incentive for participating in the study.

Interviews were conducted in the following manner: I asked the respondent a question in English and a local research assistant translated the question into the local language (Tamil) on the spot. The answer was then translated into English.

Measures

Interviews followed a semi-structured interview protocol (see Appendix) which contained demographic questions and open-ended questions about health care experiences with probes about the health care decisions made, sources of health information, health care payment and loans, and expectations for pregnancy and delivery.

Data Analysis

Interviews (in the form of field notes taken during the interviews) were analyzed qualitatively using constructivist grounded theory methods (Charmaz, 2006). First, the field notes taken during the interviews were open coded (Strauss & Corbin, 1998) using sensitizing concepts from social capital theory and health development literature to label constructs related to social network, support/assistance, facility choice and access, debt/loans, expectations of care, care received, advice and information. Next, categories of these concepts were formed by linking descriptive codes (such as "types of information" and "sources of information") into categories ("information gathering"). Axial coding (Strauss & Corbin, 1998) was then performed to understand relationships between categories and subcategories (e.g., "information gathering" and "amassing financing" yielded "accessing needed resources"). In the final stage, selective coding (Strauss & Corbin, 1998), categories were integrated and a theoretical story emerged from the data (e.g., "accessing needed resources via social relationships").

Chapter Four: Results

To best illustrate my findings and to ground them in concrete experiences, I will describe one woman's account of her health related experiences fully in order to provide perspective for the case excerpts and deductions which follow.

Case Example

Pavithra is a 30 year old homemaker with a 7th grade education who resides with her husband (37 years old) and two children (3 year old daughter and 1 year old son). Her husband earns roughly Rs. 4,000-5,000 (\$80-\$100 USD) per month working for daily wages as a coolie (manual laborer) at the city harbor. They live in their own home, paying no monthly rent. Pavithra and her husband married when she was 16 years old and the couple was unable to conceive for 10 years. She sought infertility treatment from several private clinics.

She did not believe in the government hospitals for infertility treatments because her neighbors advised that public facilities were “not good” and to visit a private hospital instead. [The term “neighbor” as used by respondents across interviews designated other women of any age living nearby who had previously given birth.] The neighbors recommended particular private hospitals/clinics and she (escorted by her mother) tried them out for five years before finally settling on one facility that she felt provided proper care. “This doctor's approach was very good,” Pavithra reports, because the doctor required that Pavithra's husband attend the appointment along with Pavithra, whereas other doctors had not made this requirement. Pavithra said of her husband's concerns:

He [Pavithra's husband] believed that he had no problems so he didn't need to come with me even just to escort me—even though other ladies' husbands brought them to their appointments. I think that he was afraid to find out that he had a problem.

But it wasn't just that this physician required the presence of the husband at the appointments: “This doctor actually answered my questions. Others didn't. Other doctors did not treat me like I was important. They only gave treatment for money, not treatment for *me*.” This and similar statements made by other low-income women in this study demonstrate that respect from health care personnel is expected by this population.

Pavithra's mother paid for all these infertility treatments and doctor visits, even the treatments for the husband's infertility condition. “At that time my husband did not feel we could afford to pay [for these infertility treatments],” nor did she and her husband take out any loans for the treatment. Pavithra reported that her parents-in-law also would not spend money for her or even for her husband's infertility treatments – it was only her own mother who volunteered to pay. Over the ten years of treatments and procedures this amounted to roughly Rs. 200,000 (\$4,000 USD) (excluding travel costs) according to

Pavithra's estimation. Her mother was able to cover these medical expenses from income garnered by a small provision shop that she operated along with her husband and son.

At her monthly or quarterly infertility treatment visits (depending on the clinic) Pavithra would be prescribed "medicines that didn't work" and then finally she had an operation. However, she did not know the purpose of either the operation or the two tablets that she took every day: Pavithra knew only that "one was for general health and one was for pregnancy." For these visits, including consultation and tablets, she would be charged about Rs. 2,000 (\$40 USD). Her operation came at a cost of Rs. 20,000 (\$400 USD).

Eventually, she and her husband were able to conceive. She began having complications such as bleeding and swelling during the third trimester of her first pregnancy and the baby was born one month premature. For the delivery, Pavithra followed standard social customs in Tamil Nadu regarding a woman's first pregnancy and traveled to her mother's home for the delivery, which was a C-section. Pavithra stayed with her mother for several months following delivery; during that time, she was traveling to her infertility doctor for check-ups even though it was a 2-hour bus and train ride one-way. Pavithra had visited other doctors nearer to her mother in the past, but had been unsatisfied with the care she received. Nonetheless, her doctor suggested that she switch to a doctor closer to her mother's location and made a referral. Pavithra was very satisfied with the care she received from this referred physician and went on to have another child two years later.

Pavithra breastfed each of her children for six months, but had problems with breastfeeding. She did not consult a doctor about this but rather spoke only with her neighbors and sister-in-law, who suggested that the reason she was having problems breastfeeding was because she ate a vegetarian diet and that she should discontinue breastfeeding after six months.

Social Relationships: Health Care Access Constraint Buffer Model

Pavithra's account depicts constraints in the domains of physical, financial, and informational access. Physical constraints are revealed when she describes the 2-hour bus and train ride she endured each way to visit her preferred physician (having already visited closer doctors of poorer quality). Second, financial constraints are evident in the fact that Pavithra and her husband depended on her parents for the money to pay for treatment and were unable to make these payments themselves. Third, in the informational domain, Pavithra had to rely on referrals to make her health care provider selections. Due to her environmental situation (e.g., no access to online provider information or patient-reviews) and personal capabilities (e.g., low education and health literacy – evident from her lack of understanding about the treatments she received), Pavithra's access to information was constrained. Such accounts were similar across respondents.

Based on the experiences described by study participants, a model (see Figure 1) was developed to depict how low-income women utilized the resources at their disposal (social relationships) to overcome the internal (e.g., HL) and external (e.g., access) constraints commonly present among low-income individuals in order to navigate the Tamil Nadu health landscape concerning their maternal health.

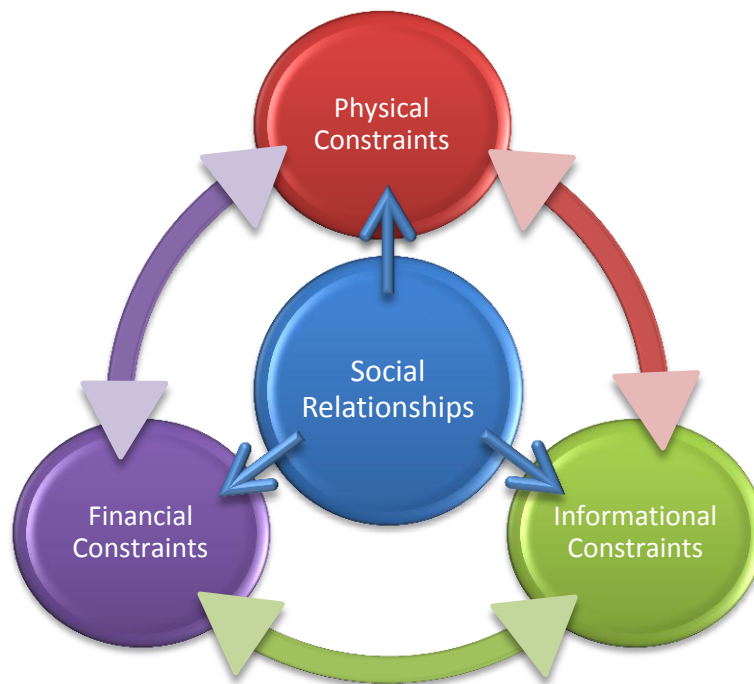


Figure 1. Model of social relationships impacting constraints to health care decision-making and access among low-income Indian women residing in Tamil Nadu, India.

Reported Constraints

In this section, before delving further into the role of (and interplay between) constraints, I first describe a contextual matter concerning the perception of quality care. Following this description I provide case excerpts which exemplify constraints (physical, financial, and informational), the interplay among physical, financial, and informational constraints, and how social relationships buffer constraints.

Preference for private (perceived quality) care in the context of a previous medical condition. Like Pavithra, other respondents who had experienced a health concern such as infertility, prior abortion or miscarriage indicated a preference for private as opposed to government health care facilities. This appears to be due to the common belief that in general, private facilities offer better quality care and that it is necessary for women with prior health issues to seek out high quality care (although one respondent reported that “the lower cost private clinics might give problems,” indicating that not all private clinics are perceived to be the same).

Access to information buffers financial constraints. This strong predilection for private care in the context of preexisting reproductive health concerns can be counteracted by recommendations from

members of the woman's social network. One example comes from Urvasi, a 23 year-old housewife with a 10th grade education carrying her first child. Urvasi experienced infertility for a year after marriage and was prescribed a "health tablet for [her] blood" by a private doctor. This treatment was most likely for anemia, though Urvasi's limited understanding of her condition was evident from the vague treatment description she provided during the interview. Because of this condition she reported that once becoming pregnant she had been "planning to go to a private hospital [for pregnancy] but my landlady told me to go to the government hospital." Based on this advice from her landlady, Urvasi made the decision to go to the government hospital where she receives subsidized antenatal and delivery services as well as the maternity assistance benefit. When asked about how her family has been paying for her visits she reports that she has not needed to take any loans to cover the costs: in addition to Urvasi giving up some shopping and entertainment expenses, her mother is also helping to pay.

Financial constraints to accessing preferred care. While Urvasi chose to visit a governmental rather than private facility based on her landlady's advice and received sufficient financial assistance from her mother, Kalvi, a 25 year-old mother and part-time construction laborer with an 8th grade education, is unable to follow her landlady's advice to go to a private facility due to inability to pay. Her husband has an 8th grade education and works as a lorry driver, though for only about four days per month. "My husband's and my work is not so good – not enough to meet daily living expenses."

Her first pregnancy resulted in a miscarriage. When she became pregnant again, she visited a government facility where she had a full-term C-section delivery. The incision-area became infected and the treatment received from one visit to the same government facility did not resolve the problem. Deciding to take her landlady's advice, Kalvi went to a private hospital where she had "an operation which cost Rs. 10,000 [\$200 USD]" and her incision issue was resolved fully. In order to cover the expenses at the private facility, Kalvi borrowed from a moneylender who charged an interest rate of 5% per month. She did not have any jewels to use as collateral. (Jewel loans are collateral-backed loans that are often offered at lower interest rates than non-collateral money-lender loans. The collateral for jewel loans are often the wedding jewelry bestowed upon a woman at the time of her marriage. In some low-income families in this study, because each sister did not have her own wedding jewelry, the mother would safeguard jewelry that would be lent out to the sisters in times of need.)

Information and financial constraint interplay via social relationships. The MA that would have benefitted Kalvi and her precarious financial situation was just out of reach. Despite the fact that she delivered her child in a government facility, and should have been eligible to receive the funds, Kalvi lacked the know-how needed to apply successfully. "My mother-in-law's friends learned about the scheme from a government center located in that area." These friends passed on the information to Kalvi's mother-in-law, who informed Kalvi. However, "I didn't learn about it until I was five months

pregnant and you have to register with the government when you're three months pregnant to get the money." It is unclear whether this was actually the standard application procedure at the time of her delivery, however also Kalvi had other difficulties applying for MA: "I applied for my ration card with a 'known person' [a term used to designate a trusted individual] but that person did not do the application. After that I applied myself directly with the government office and only received the card three months after delivery" – too late to receive the benefit.

When asked about plans for another child, Kalvi says she would like to have one. "I'll go to [government hospital] because of money. If money were no problem I'd rather go to the private hospital because the quality is better."

Though financial matters were reportedly a very high concern, Kalvi's account provides an example of taking drastic measures in order to get what was perceived as quality care. Instead of returning for a follow-up visit to the government hospital when her incision wound issue did not resolve, Kalvi took out a collateral-free high-interest loan to pay for treatment at a private facility recommended to her by her landlady.

Physical and financial constraints affected by relationships and anticipated social outcomes.

Other respondents reported taking out loans in order to deliver at a private facility for various reasons. Bairavi (a 24 year-old 6th grade educated housewife) and her husband (a 34 year-old 10th grade educated mechanic shop owner earning Rs. 10,000 [\$200 USD] per month) wanted no more than two children because "the cost of living is too high." However, their first two children were sons and, though they had planned to do family planning sterilization (i.e., having the wife's tubes tied) following their second child's birth, they decided they would try for a daughter. The doctor who delivered their second son pressed Bairavi to get sterilized, saying there was a government-enforced limit of two children per family. "The doctor said the government hospital would scold us [if we had another child]." She and her husband told the doctor that they would do the sterilization procedure in six months, but in reality they were planning on conceiving their third child in the hopes it would be female.

This decision resulted in the family taking out loans. For her third pregnancy – both antenatal checkups and delivery – Bairavi "didn't go to the government hospital [for fear of] being scolded for having another child." This resulted in a total cost of Rs. 13,000 (\$260 USD) (including checkups, delivery, scans, and tests). For this, they borrowed Rs. 15,000 (\$300 USD) from a money lender which was paid off within 100 days. Bairavi was unsure about the interest rate for this loan, as well as for other loans from money lenders to pay for their four-year-old's school fees of Rs. 5,000 (\$100 USD) per year. "Also, we've taken jewel loans from a private man [not associated with a company or service] for an interest rate of 2.5% per month." These jewel loans were for her husband's business expenses and some of the jewels came from her side of the family and others came from her husband's side of the family.

In order to curb further expenses for their third child (another son), Bairavi decided to go to the government hospital for the child's required immunizations (free of charge) instead of the private clinic which charged Rs. 1,000 (\$20 USD) per injection. "Initially the government nurse said they would not do the injections there [at the government facility] but since she knew our family [from our two prior deliveries] she relented." Because Bairavi was able to leverage her personal prior connection with this nurse, her youngest son receives free vaccinations and the family did not endure the additional financial hardships which would have resulted from private facility charges.

Social influences on financial constraints. Another family that chose to try for a daughter after having two sons despite financial obstacles was that of Rajshri, living in a rural area approximately two hours by car from the city. Rajshri is around 29 years old and works as an agricultural laborer (on her own land as well as others') and earns about Rs. 12,000 to 15,000 (\$240 to \$300 USD) per year. Rajshri learned about the sterilization procedure for the first time from her doctor following her first delivery; prior to this she did not know that there was such a medical option for family planning. She and her husband wanted more children, however, and encountered resistance not only from health care providers, but also from extended family:

After having two children my parents-in-law suggested that I do family planning [sterilization]. But my husband and I wanted a daughter. When I was eight or nine months pregnant with my third child my husband had an accident [and could no longer work] and my parents-in-law asked me to get an abortion. I agreed because we didn't have enough money. I went for an abortion – before even knowing the sex of the baby – but the pregnancy was too far along for an abortion to be done.

Rajshri did deliver the daughter that she and her husband were hoping for. Unfortunately, because of her husband's accident (a vertebral injury that occurred while he was cutting a tree and fell) their family no longer receives the Rs. 4,000 (\$80 USD) per month that he had been earning as an agricultural laborer. However, this accident took place several years ago and Rajshri reports that his health has improved: "Now [his health] is ok but he's taking alcohol." Whether her husband's inability to work stems from lingering effects of his back injury or the implied alcoholism that resulted is unclear.

In this situation, Rajshri takes out jewel loans of Rs. 2,000-3,000 (\$40-\$60 USD) each six to seven times each year to cover day-to-day "emergencies". The hospital charges for her husband's accident required much larger sums to be borrowed. Their family took out Rs. 200,000 (\$4,000 USD) at a bank using her marriage jewels as collateral (at a 4% per year interest rate). They needed an additional Rs. 150,000 (\$3,000 USD) from a moneylender living in the same village. In addition to these loans, Rajshri used money earned from their harvest as well as money contributed by her parents-in-law. Rajshri had

never heard of jewel loans before her husband had the accident and only learned of them (and their much lower interest rates) when a neighbor told her about them.

Rajshri's account illustrates how some strong social relationships (that with the parents-in-law) do not necessarily dictate the health decisions to be made (in the case of having a third child) but can influence health behaviors and decisions (in the case of seeking an abortion). Also, the neighbor informed Rajshri about the existence of jewel loans, allowing Rajshri to access less costly financial resources.

Summary of reported constraints. Low-income women residing in Tamil-Nadu experience constraints in accessing maternal health care. These constraints exist in three domains – physical, financial, and informational. There is interplay among these domains, wherein one form of constraint can buffer negative outcomes of another constraint (e.g., having MA application information can lessen a woman's financial constraints). Often this interplay is a result of social relationships.

Constraint Dyads, Buffered by Social Relationships

In this subsection I provide summary examples of the ways physical, financial and informational constraints affect one another and how social relationships help to counteract and overcome constraints.

Financial-physical interplay. A woman with sufficient financing can visit a nearby private facility (with better perceived quality of care) rather than traveling farther to a government facility or waiting for the government facility (which may have limited hours of operation) to open. The women gained sufficient financing through their social relationships in the following ways:

- 1) Their own family (mothers / sisters) paying private medical expenses.
- 2) Their own family supplying jewels to be used as loan collateral. Neighbors or family members providing information about the government schemes, about reputable and/or low-rate money-lenders, or about the existence of jewel loans as a financing option.
- 3) One woman leveraged her existing relationship with a government nurse in order to gain access to the free public immunization program for her third child.

Financial-informational interplay. A woman who has information about the MA and application procedures may be more likely to receive the benefit than a woman who has never been told of the benefit or who does not know how to apply. A neighbor or nurse who informs a woman about MA or about a reputable place to receive a low-interest jewel loan has given the woman information important for enhancing the woman's financial situation.

Informational-physical interplay. A woman with sufficient information about available locations and health care providers can assess options for care thoroughly. Women received information about locations of clinics and doctors from neighbors, family members, and health care workers, which expanded the woman's range of choices.

Constraints and Tamil Nadu Government Supports

This section describes how physical, financial, and informational constraints affect (or are affected by) access to the Tamil Nadu support system.

Motherhood assistance scheme. Not all first-time mothers reported knowing about the maternity assistance benefit when asked. For those who did know of the program's existence, there was uncertainty about the application process. The information that the women recounted about the program was quite varied. In fact, while some reported that their government nurse told them that they would not apply for the assistance until delivery time and that the money would be received thereafter, another respondent lamented that she learned of the benefit at too late a stage in her pregnancy to apply for it. In addition to the application process itself, the allotment schedule of the scheme was not well understood by these women. While some knew that one allotment came before delivery and another one came after, others believed the entire benefit amount came only after delivery, and none of the women reported knowing of the immunization benefit (third installment). This begs the question of how successful the full immunization schedule will be with apparently few of the women knowing about the available incentive.

Furthermore, these women reported being hesitant (or even fearful) to ask their health care providers about the application process, believing that it was not the doctor's job to instruct them on these matters or that the nurse was too busy to do so. Even when one respondent did ask her government nurse about the application process, the nurse did not inform her (though the respondent felt confident that she would be informed about the application process by her nurse eventually). Of those that did know of the program and about the application procedures, some reported not having a government "ration card" (a Below-Poverty-Line identifier, which they believed was required to receive the benefit) or not being able to get a ration card in time for their delivery. In fact, one respondent who delivered in a government facility did not receive the MA, not because she did not know how to apply or because her application was delayed, but because ten years prior, her sister had applied for a government ration card, but "she still doesn't have one so I didn't apply."

Moreover, to receive the MA benefit the woman must have a bank account opened in a government financial institution. None of the women reported having already an account opened in their names at an appropriate institution and needed to learn the process of opening an account and filling out the associated paperwork in addition to locating such a bank and traveling there to complete the process. However none of the women reported that this prevented them from opening an account and successfully receiving the MA benefit.

To summarize, this government program which intends to alleviate financial constraints of low-income women is thwarted in this goal by barriers to information access. Though some physical access constraints to financial institutions were reported, these data do not suggest that this hindered MA reach.

Government outreach nurses. While some women reported having regular monthly visits from the government outreach nurses, others did not. One respondent stated that she knew about the outreach nurses but that none came to her particular area of the city. However, I learned from another respondent living in the same neighborhood that she was receiving regular home visits from government nurses. Yet another respondent reported never having a visit from an outreach nurse because she never knew when to expect the nurse and, if the nurse had come, the respondent may not have been at home. Finally, there were different ideas about the reason the nurse came: “I think that the only reason the nurse would come is to report back to the hospital and since I’m already going to the hospital, there’s no reason for the nurse to come here.” Conversely, another respondent reported having monthly checkups from the outreach nurse in addition to her monthly clinic visits, such that she was having two check-ups per month, one in her home and another at the government facility.

Whether in the facility or in the home, government nurses were often a primary source of pregnancy information. For instance, some women found out about the MA scheme through their nurse. However, one mother of three children reported that her outreach nurse did not provide much information to her (the same nurse for all three pregnancies) until the nurse learned that the oldest child has a learning disability: “She only really started interacting with me when she found out that my first child was mentally challenged, and then she told me about the scheme. She didn’t really interact much before that, like for my first pregnancy.”

To summarize, government nurses play a crucial role in information access to low-income women, but are not always available (either due to being “too busy” or – in the case of absent outreach nurses – simply not presenting themselves) to facilitate knowledge transfer. However, at least one nurse exemplified responsiveness by learning about the family (mentally disabled child), assessing their needs and providing MA information.

Subsidized care at government health institutions. Women who indicated that they received health care services free of charge from government health facilities (including doctor consultation, blood tests, ultrasounds, vitamins and delivery charges) still bore significant out-of-pocket expenses for auxiliary matters. These included transportation for themselves and a chaperone to and from the facility, food expenses (especially during the delivery period), and money for “aides” to look after the baby. The money for the nurse aides was not a hospital charge, per se, but it was reported that if the family of the newborn did not pay roughly Rs. 500 (\$10 USD) per day (for a male child; Rs. 400 [\$8 USD] for a female newborn), then the nurse aides would not feed, bathe, and care for the baby adequately. These are understood by some to be “illegal” charges (i.e., akin to a bribe), but they are paid nonetheless to ensure that good care is taken with their child.

Some women who preferred the government facilities over private ones due to cost were repelled from government facilities and felt they had no choice but to pay for private care instead. Two mothers in this study sought care from private facilities because they feared being “scolded” at the government hospital for having more than two children. (Although decreasing the state’s total fertility rate is a goal of the Tamil Nadu government – which may explain why government doctors discouraged women from having more than two children – there is no official policy limiting family size.) One woman was initially turned away from receiving free immunizations for her third child, though the nurse relented and the family did not need to pay for private injections (or worse yet, forego vaccinations altogether). Another woman was told by neighbors to get her child’s immunizations at the private clinic because, according to the neighbors, the government required nine injections whereas the private clinic would combine these vaccines into one. Though this woman did not verify this information with the government facility (which was 60 to 90 minutes away by foot), she took the neighbors’ advice and paid for her child’s injections rather than getting them free from the public facility.

In summary, though money may not be spent on government facility charges per se, there are other significant costs associated with accessing maternal care. Additionally, ensuring that low-income mothers feel comfortable accessing care at government facilities (i.e., without the threat of shaming) is important to guarantee a minimum level of care is received, such as childhood immunizations.

Chapter Five: Discussion

This study examined how low-income women residing in Tamil Nadu, India experienced their health care landscape, especially concerning their reproductive and maternal care. Results indicated that despite Tamil Nadu's "considerable achievement in maternal and neonatal health, compared with many of its neighbours in India and elsewhere in South-east Asia" (Balabanova et al., 2011, p. 273), low-income women faced great external constraints to accessing health care and governmental supports. External constraints to health care access emerged in three domains: Physical, Financial, and Informational. This study further demonstrated the importance of the women's social relationships in overcoming physical, financial, and informational constraints.

Women in the present study reported encountering constraints in accessing and making informed decisions about maternal health care services. These constraints correspond to a lack of what Andersen (1995), in his widely used behavioral model of health care use and access, calls enabling resources. Enabling resources include the availability of health facilities (physical access) and the means (financial access) and know-how (informational access) to make use of them—and they must be present in order for utilization to occur (Andersen, 1995). While Andersen's model shows that the environment (e.g., health care system) along with patient population characteristics (e.g., a patient's health care needs, social structure and enabling resources) contribute to health behavior and subsequent health care outcomes, the current study found that population characteristics pertaining to social relationships—and the social support received from those relationships—were particularly salient to maternal care access of low-income women residing in Tamil Nadu.

For example, similar to previous findings among women in the United States (Miller-Ott & Durham, 2011; Snyder & Pearse, 2010), low-income Indian women in the current study reported relying on the resources (social capital) of their social network in order to acquire instrumental social support (informational, physical, and financial) to compensate for insufficient enabling resources. Specific examples of instrumental support received by study participants included receiving referral advice from neighbors (informational support), having infertility and maternal medical costs paid for by woman's natal family (financial support), and having a family member accompany the woman to a health visit (physical support).

This is an imperfect system, however, as is evident when a woman's social network does not have the social capital (e.g., knowledge) needed to assist fully (e.g., providing accurate Maternal Assistance application details). Furthermore, as has been reported in other contexts (Cohen et al., 2000) the use of social relationships to compensate for enabling resource insufficiency can *increase* constraints rather than decrease them. For example, under certain conditions (like having a pre-existing condition) women were routinely advised by their family and neighbors to seek care at a (relatively expensive) private clinic

rather than at a subsidized government facility, thereby increasing financial burdens of the low-income mother-to-be (and that of her nuclear and natal family). Such adverse consequences of social support can negate the use of (and benefits of) governmental supports in Tamil Nadu targeting low-income women.

Also salient to women in this study was the provision of social support from neighbors and family members who had already experienced a pregnancy. Advice on such topics as diet, breast feeding, sleeping positions, and facility choice was often heeded because these individuals had experienced maternal health care matters previously. This is consistent with the social relationship and health literature, which describes *experiential support* being used by individuals to gain perspective about their health conditions. Experiential support can arise from a relationship with someone who has lived through a similar health state and who can provide first-hand experience, insights, and information (Snyder & Pearce, 2011). Prior research has shown that women undergo a process of support-seeking that focuses first on “seeking expert (informational) and experiential support. Once they gain the information, they seek tangible and emotional support” (Miller-Ott & Durham, 2011, p. 197). Indeed, many women in this study reported that they learned about the maternal supports provided by the Tamil Nadu government through their social network and also relied upon members of their social network for instrumental support, such as money and accompaniment to clinic visits.

Governmental supports for low-income women in India seek to compensate women for the unpaid yet vital social roles they play in providing “the foundation for generating future labourers for [the] economy” though “social reproduction... transmitting culture and maintaining social bonds and community” (Lingam & Yelamanchili, 2011, p. 97). However, not all current study participants were able to avail themselves of these maternal supports. Women identified three main governmental supports to maternal health care: the Motherhood Assistance Scheme (MA), government outreach nurses, and subsidized care at government facilities. Not all study participants reported being aware of MA and few were clear on the application procedures. Unclear application information and application processing bureaucracy were reported to have prevented access to MA. Conversely (and perhaps surprisingly), those study participants who had successfully received MA had little trouble in regard to opening the government bank account required to access MA, either in terms of finding information or with application bureaucracy. Interestingly, none of the women in the study reported knowing of the MA benefit for completing a full child vaccination schedule. Though this is a recent addition to the MA scheme, it calls into question the effectiveness of such a public health initiative when the intended targets do not know of it. To address some of these shortcomings, one evaluation (Bajpai, Dholakia & Sachs, 2008) recommends taking measures to increase service and benefit delivery, such as assessing MDG indicators at the block-level (a smaller area division of Tamil Nadu and its districts) so as to address the inequities of health delivery and to target those areas which have not shown expected improvements.

Bajpai et al. (2008) also recommend ensuring timeliness and adequacy of payment for government health nurses to improve health utilization and increase health information transfer to target populations.

Government outreach nurses are critical to effectively disseminate maternal health information to low-income women in India (Ny, Dejin-Karlsson, Uden, & Greiner, 2006; Sebastian, Khan, & Roychowdhury, 2010). Nurse visits have also been shown to increase maternal health service utilization among rural Indian women (Sunil et al., 2006; Singh et al., 2012). However, not all participants in this study were receiving outreach nurse visits. While some women experienced pleasant and consistent visits from their outreach nurse and received valuable maternal health information (including MA details), other women had never had a nurse home visit. This is troublesome because it represents a missed opportunity to provide badly needed accurate health information to low-income Indian women. Similar to other findings in India (Neogy, 2010; Ny et al., 2006), women in the current study lacked even a basic understanding of nutrition, what to expect at delivery (e.g., episiotomy), or the purpose of surgical operations or tablets prescribed by their doctors. Time spent educating women during outreach nurse visits could enhance the maternal knowledge base of low-income women regarding general and public health matters.

Women in the study were aware that maternal care is subsidized at government facilities. However, they reported that this service still comes at a cost, including money for nurse aides, food, and transportation. Additionally, the women in the study who chose private facilities were often discouraged from seeking care at government facilities by family and neighbors who believed that government facilities provided lower-quality services than did private facilities. The belief among Indian nationals that their government health facilities are inferior to private facilities has been reported elsewhere (see Banerjee & Duflo, 2011, Chapter 3; Viswanathan, 2007). By changing such perceptions and attitudes about low-quality government health services, the health system could lighten the financial burdens of low-income pregnant women and their families, especially those women with pre-existing conditions, who are more likely to avail relatively expensive services at private clinics (Banerjee & Duflo, 2011).

Taken together, the accounts concerning maternal health care decision making and access suggest that while the Tamil Nadu government is making great strides toward enhancing maternal health care, the state health care system and governmental supports are not benefiting all individuals intended. Furthermore, this study also demonstrates that low-income South Indian women rely on their social relationships to provide the resources needed to overcome physical, financial and informational constraints encountered when accessing health care or making health care decisions.

Limitations

The main findings of this study reveal the barriers that low-income South Indian women face when accessing health care and when making health care decisions, despite the relatively high level of

government support and maternal assistance programs. The study also found that these women rely on their social relationships to overcome physical, financial, and informational constraints to care, which extends social relationship literature (especially concerning experiential support) and health framework literature to this population.

The results of the present study should be considered in the context of several limitations. First, respondents were not specifically asked what barriers they encountered in their health care decision making and access. They were asked only to describe their experiences related to maternal health care. Therefore, it is unknown whether there are factors perceived by the women to constrain their health care behaviors other than those identified in this study, or whether the women themselves would consider the physical, financial, and informational constraints as barriers to obtaining their desired care. Future studies could ask respondents directly about what they perceive to be obstacles, barriers or constraints in obtaining health care or in making health care decisions.

Second, some of the women gave educational attainment levels to me during the interview (which are the levels as reported in this paper) that differed widely from what they reported to the Tamil research assistants post-interview. There was an education level discrepancy in eight out of the 23 interviews ranging from one to five years different. All but one reported a lower education level during the interview and higher level later to the Tamil research associates. Furthermore, of these seven lower education level discrepancies, six were two or more years lower as reported to me. Though not directly assessed by this study, educational level completed generally indicates a certain level of skill (e.g., literacy and numeracy) which are often important capabilities to consider when investigating matters of health literacy. Future studies could measure the respondents' literacy or health literacy levels directly to determine more precisely their capabilities.

Third, these data are self-report data from only the patients which (for some respondents) required them to recount events and experiences that took place months or even years before. No health care providers or other family members (e.g., husbands) were interviewed; no observations of clinic/hospital visits were made; no bank accounts were consulted regarding maternal assistance benefit acquisition. Therefore, it is impossible to fully understand 1) the quantity and/or quality of information provided to, or level of support received by the women through the Tamil Nadu health care system or 2) the interpersonal spectrum of maternal health decision making in the context of the woman's family and community. Future studies ought to consider conducting a more robust contextual investigation in order to deduce a richer portrayal of the terrain low-income women face in addressing their health needs.

Finally, there were limitations concerning data collection. First, I do not speak Tamil and relied on two research assistants to translate during the interviews. Though these research assistants were intimately aware of the research being conducted and the interview protocol, I was the researcher asking

the questions and probing for additional data. Because of this translation set-up, certain nuances of the responses were likely lost. Furthermore, because of the make-up of the Tamil research team, the translators were male, which could have caused the women to feel uncomfortable about sharing these sometimes intimate details of their lives. It should be noted, however, many women spoke (seemingly) freely about such topics as abortion, episiotomies, not getting along with their mother-in-law (or other family members), and even their husband's alcoholism. Nevertheless, it is possible that because these are taboo topics, compounded with the male research assistants, some women may not have felt comfortable offering up information freely. Furthermore, respondents had low-income backgrounds and there was a stark social status difference between them and the research team. This also may have led the women to provide socially desirable answers. Future research must be vigilant when considering such matters and should utilize a female research assistant or – better still – an academic research partner native to the respondents' linguistic and cultural background to conduct the interviews.

Future Directions

Despite these limitations, the results of the present study have several implications for policy, practice, and future research. For health care policy and practice, it is telling that despite so many maternal supports for low-income women from the Tamil Nadu government, this population still experiences vast challenges to accessing care. More emphasis must be placed on getting quality, meaningful information to low-income (and low-literate) individuals through relevant channels. Furthermore, in case one channel “breaks down” (e.g., an outreach nurse does not visit one of her patients), there should be backup channels of information. For instance, government nurses are currently working on the front lines with low-income women and can be effective conduits for information dissemination (Ny et al, 2006; Sebastian et al., 2010). They should be required to walk women through 1) what services are available to them and at what subsidized costs, 2) other facility options in their area (along with cost and care comparisons), 3) the Maternity Assistance and ration card application processes (and they should offer help with filling out forms). But because not all women are being reached effectively by an outreach nurse, private clinics (as well as government facilities) should be mandated to provide the above information accurately. Accountability can be instilled through random quality control information checks at these locations. This will help ensure that women have some basic information regarding their health care options (and possibly financial/physical consequences of those decisions). Furthermore, doctors, nurses and other health care workers should be trained to take care that mothers do not feel they will be shamed or scolded for attempting to access health services at a government facility. Although not major themes apparent in this study, assuring that women feel comfortable seeking services at a government facility will help safeguard against such counterproductive events as deliveries taking

place without qualified health attendants present (a MDG indicator) and infants failing to be properly immunized.

In addition to addressing specific study limitations as described above, future research can focus on collecting information from healthcare providers and family members—such as husbands—to gain a fuller view of the health and family contexts as they related to external constraints and resources and health decision-making stakeholders (Bloom, Wypij, & Das Gupta, 2001; Sebastian et al., 2010). Furthermore, an assessment of health care providers’ training, incentives, and goals should be conducted in order to find weaknesses in the health system or misalignments with the overall goal of maternal health and well-being (for a discussion of these matters, see Banerjee & Duflo, 2011, Chapter 4).

Future research should also include a deeper look into the internal constraints faced by low-income women, especially concerning literacy, numeracy and health literacy, and how these may affect maternal health outcomes and decision making processes and capabilities. Because maternal education is a predictor of maternal health care service utilization in India (Singh et al., 2012), not only getting children enrolled in school but also providing them quality education is a key to advancing maternal health in this region.

In light of the current context of low-education and the long-term nature of such an issue, however, in the near-future applied research – such as program implementation and evaluation studies targeting recognized public health deficiencies – can be used to address health matters of Indian women (e.g., Sebastian et al., 2010). Applied research can also help examine the effectiveness of leveraging the rich relationships inherent in this population (Viswanathan, 2011). Furthermore, there is a culture of financial self-help women’s groups in India (Tesoriero, 2006) which could also be leveraged by designing a neighborhood-based health-related self-help group (HSHG). Each woman in the current study who was asked indicated interest in joining a HSHG if one existed in her area. They noted that a HSHG would be an effective method for getting themselves information related to maternal and child health, self-care, child education and financial matters and that they would feel comfortable sharing their own experiences with others. This is supported by prior research which highlighted post-partum women’s need for a safe space to share experiences: as one Indian mother is quoted as saying, “I feel if I talk to somebody, I will feel better. But this will also lead to quarrels [with family members], so it is best not to talk to anybody” (Rodrigues, Patel, Jaswal, & De Souza, 2003, p. 1801). Conducting an evaluation of such a community-based intervention could provide insights into a cost-effective method to increase maternal and child well-being and could enhance understanding of social relationships (and the effects of social networks, social support, and social capital) within the health care context of low-income women in India.

This study sheds light on how the Tamil Nadu health landscape is understood and accessed by women living in subsistence communities in the context of both internal (e.g., low health literacy) and

external (e.g., lack of health infrastructure) constraints to obtaining maternal health care. The experiences of low-income Indian women in this study reveal that constraints in three domains (physical, financial, informational) are encountered and that in order to negotiate these constraints, women leverage their social relationships to gain access to maternal health care and Tamil Nadu government maternal assistance.

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Appendix

Interview Protocol

Demographics and Background

- Name, Age, Education Level, Current / former employment?
- How long married?
- Husband's Age, Husband's Education Level, Husband's job
- Family Income
- Children, ages, education (level, public/private/school fees) / month of pregnancy
- Rent/own home (costs)
- Who do you live with? Nuclear/extended
- Where does your family live (parents/sisters) / hometown?
 - How often do you speak with them / visit? Face-to-face? Phone?

Information Gathering / Information Availability and Social Network

- Are there other people you speak with regularly?
- Do you (did you) speak with anyone about your pregnancy?
 - Do you ask *them* questions or do they offer unsolicited advice?
 - Do you like getting advice from these people?
 - Tell me about the advice you received
 - Did you follow this advice?
 - If given to you from someone who was not a medical professional, would you ever double check with your medical professional about the advice before taking it?

Health Knowledge and Understanding

- What are the tablets/medicines for that the doctor prescribed to you?
 - Do you know why your doctor thought you should take this?
- Are you familiar with the term protein/carbohydrate/fat and what it means?
 - Where can you get this?
- Do you know of the government's funding scheme? How did you learn about it? Did you/ will you apply? Tell me about that decision/process.

Care (Pregnancy and Children)

- Did you choose to receive care at a government or private facility?
 - Tell me about the reasons / factors that caused you to make that decision
- Costs of care
- Transportation method/time
- Expectations about Delivery
 - Episiotomy?
 - Expected?
 - Did you ask others about this after delivery?
 - Why do you think they didn't share this with you?
 - Would you have liked to know about this beforehand?
 - Is there anything you know now that you wish you would have known then?
- Do you take your children for checkups?
 - What does the doctor do when you take your children in?
 - Do they check the child's weight?
 - What do you learn from these visits?

- What are the injections that your children receive? Purpose known?
- Did you / do you plan to breastfeed? For how long?
- Did you / do you plan to do “Family Planning”?
 - Tell me about how you and your husband came to that decision (e.g., who brought up the idea)
 - Have you spoken with your doctor about it already?
 - How many children would you like to have?

Financing

- Have you ever needed to take a loan?
- What type of loan? (money lender, SHG, jewel loan, relative/friend, etc)
- How often? What amount? What interest rate? What was it used for? Paid off yet?

Receptive to HSHG?

- Are you / have you been part of a FSHG? (why/why not)
- Would you be interested in a HSHG?
- Meeting location, time, frequency
- What would you like to discuss?
 - Health (mother/child)
 - Child Rearing
 - Children’s Education
- Would you feel comfortable enough to share your experiences with other women in the group? What would have to happen for you to feel comfortable?
- To you, what would make the group successful?