The influence of women's empowerment on treatment-seeking behavior for sexually transmitted infections in rural India: Implications for HIV prevention

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Introduction

The role of reproductive tract infections (RTI), particularly those that are sexually transmitted (STI), in facilitating HIV transmission has highlighted the need to prevent and treat RTI and STI as a key HIV/AIDS control strategy. In the recent years, India's HIV/AIDS epidemic has become the cause of much concern, with 3.97 to 4.58 million HIV cases estimated in 2002 and anywhere between 9 and 25 million projected to be infected by 2010 (NACO, 2003; NIC, 2002). Married women constitute a rapidly rising proportion of those infected as suggested by antenatal clinic prevalence rates of as high as 6% in some parts of India (NACO 2003). In the 1980s and 1990s a number of studies were undertaken to study community-based prevalence of gynecological morbidity[1] including RTI and STI in various parts of India (Bang et al., 1989; Koenig et al., 1998; Hawkes and Santhya, 2000). Despite considerable heterogeneity in prevalence rates between various geographic regions, these studies suggested that in some parts of India there is a high prevalence of certain RTI and STI among women. For example, prevalence rates of as high as 10% and 27% have been recorded for syphilis and trichomoniasis respectively. These figures are even higher in convenience or clinic-based samples of sex workers and women attending STI, antenatal, and gynecological clinics (Hawkes and Santhya, 2000). And in studies that examined self-reports of symptoms of gynecological morbidity, as high as 60 to 79% of women interviewed reported excessive vaginal discharge (Amin, 2000).

A majority of women with STI, especially cervical infections such as Gonorrhea and Chlymadia, are asymptomatic. However, even among symptomatic women, many do not seek treatment. For example, community-based prevalence studies of gynecological morbidity in India (Bang et al., 1989; Koenig et al., 1998) and elsewhere (Egypt, Bangladesh, Turkey, Nigeria) found that few women reporting symptoms sought treatment for them (Younis et al., 1993; Wasserheit et al., 1989; Bulut et al., 1997; Brabin et al., 1995). Reasons included perceived normality of symptoms, lack of access

1 Gynecological morbidity refers to health problems outside of pregnancy including menstrual problems, reproductive and sexually transmitted infections (RTI and STI), genital prolapse, sexual dysfunction, infertility, and cancers of the reproductive tract. RTI includes infections of the reproductive tract that are both sexually transmitted (STI) and non-sexually transmitted (i.e. endogenous or iatrogenic). RTI including STI are among the several causes of gynecological morbidity. This paper broadly explores and refers to women's treatment seeking for gynecological morbidities, but RTI and STI are a significant component of these morbidities as vaginal discharge is one of the main symptoms of interest in this research.

to quality health-care services, reluctance to undergo a physical examination, low status of women, and fear of stigmatization. A recent review of the social context of gynecological morbidity and its consequences identifies a paucity of studies that examine treatment-seeking behavior and their correlates as a critical research gap - one that needs to be addressed in order to develop appropriate reproductive health including RTI, STI, and HIV prevention information and services for women (Jejeebhoy and Koenig 2003).

In the years leading up to and after the International Conference on Population and Development in Cairo (1994), many women's health activists, policy makers and researchers have argued that women's empowerment is an enabling condition to improve reproductive health outcomes for women (Ravindran, 1996; Hempel, 1996). Much of the research examining the links between women's empowerment and reproductive health has focused on the role of women's autonomy in influencing their fertility behavior and contraceptive use. Whereas, few studies have empirically examined whether women's empowerment is an important factor in influencing their health-seeking behaviors, especially for symptoms of gynecological morbidity, RTI, and STI. For example, in their review on the social context of gynecological morbidity, Jejeebhoy and Koenig (2003) identify one of the priority research questions for further investigation as one that focuses on the role of women's autonomy in seeking care for gynecological morbidity. This paper addresses research gaps identified in the literature by a) describing women's responses to symptoms of gynecological morbidity (including RTI and STI); and b) examining the relationship between measures of women's empowerment and their health-seeking behaviors (including treatment seeking and symptom communication). Such findings will increase an understanding of the barriers to women seeking treatment for their reproductive health problems. They will also inform programs and policies for preventing and treating RTI and STI and thus, contribute to efforts to reduce HIV transmission. Equally important - these findings will inform a broad range of reproductive health programs and services that aim to reduce women's suffering from gynecological morbidities and thus, improve their quality of life.

Background and rationale

Treatment-seeking behavior is defined as part of several "illness or health-seeking behaviors" of women to manage their symptoms associated with gynecological

morbidity. While the term "treatment-seeking" focuses narrowly on the use of allopathic health services, "illness or health-seeking behavior" includes all meanings and activities a woman and her networks engage in response to symptoms. It includes symptom recognition, self-care, symptom communication and lay referral, traditional and biomedical care, and treatment adherence/compliance (Christakis et al., 1994). The USAID project MotherCare (1990) has recommended defining treatment-seeking behavior for maternal health as use versus non-use of services, choice of provider (home remedy, traditional or modern care), timing of use of services, and compliance with treatment. This paper focuses on symptom communication, use versus non-use of any type of treatment outside the household (including traditional care), and the use of biomedical care as outcomes for analysis.

Sharing or communicating their symptoms is the first hurdle that many women have to overcome in the process of seeking care for their gynecological symptoms. The significance of exploring women's communication of gynecological symptoms, especially with their husbands and partners, stems from the fact that spousal communication on reproductive and sexual issues is increasingly viewed as a critical factor not only in enabling treatment seeking and partner notification, but also in facilitating sexual negotiation and safe sex practices (Santhya and Dasvarma, 2002). Studies from India present a conflicting picture on the extent of spousal communication about gynecological symptoms. For example, Patel (1994) and Oomman (1996) both reported that women discussed their symptoms with their husbands. Whereas, Bang and Bang (1994) and Ramasubban and Rishyasringa (2000) found that women did not inform their husbands about their symptoms. Only one study from India has explored factors associated with symptom communication, finding that older, more educated women, and those with painful symptoms were more likely to communicate symptoms to their husbands than younger, less educated women, with less painful symptoms (Santhya and Dasvarma, 2002). However, this study did not conduct multivariate analyses. Thus, findings are not adjusted for potential confounders neither do we know the effect size.

Several studies from India report that inaction is the most common response to gynecological morbidities (Mulgaonkar et al., 1994; Bang and Bang, 1994; Oomman, 1996; Bhatia and Cleland, 1999; Prasad et al., 1999). For example, in their study in southern India, Prasad et al (1999) found as high as 65% women with gynecological

symptoms not seeking any treatment. Among those who do seek treatment, the first response is usually self-treatment through home remedies (Kanani et al., 1994; Bang and Bang, 1994). When symptoms become unbearable, treatment is sought primarily from the private allopathic sector – through both qualified and unqualified providers (Kapadia, 1999; Oomman, 1996; Bhatia and Cleland, 1995, 1999; Prasad et al., 1999; Sharada et al., 1997). Only two Indian studies have explored correlates of treatment seeking for gynecological morbidities. For example, Bhatia and Cleland (1995) in their study in southern India found that age, caste, and exposure to health information emerged as significant predictors of treatment seeking. In their study, women's autonomy was associated with treatment seeking, but this relationship was weak and insignificant. In a recent analysis of India's National Family and Health Survey-2 (1998-1999) data, Rani and Bonu (2003) explored correlates of women's choice of treatment provider for gynecological symptoms. In their multinomial model, they found that household wealth, education, and age were significantly associated with treatment seeking, with wealthy, educated, and older women more likely to seek care than the poorest, least educated, and youngest women. Women's autonomy was a significant, but unsubstantial predictor of treatment seeking.

Despite the strength of their analysis - derived from a nationally representative sample, several questions remain unanswered in the Rani and Bonu (2003) paper. With respect to the main research question of this paper, neither the Bhatia and Cleland (1995), nor the Rani and Bonu (2003) study shed light on how women's empowerment, a complex and multidimensional construct, plays a role in enabling women to seek treatment. The role of social support networks in enabling treatment seeking has also not been explored in any of the Indian studies on RTI. Several studies exploring other health problems have indicated that lay-referral or social support networks play an important role in influencing health-seeking behaviors (Janzen, 1978; Visandjee et al., 1997). Lastly, the outcomes defined by Bhatia and Cleland (1995) and Rani and Bonu (2003) did not separate symptom communication, any treatment sought outside the household (including traditional care), and allopathic treatment. Of the three, only the last outcome was explored in these two studies. Whereas, each of the three outcomes are important in their own right in terms of informing the design of effective interventions.

Defining and measuring empowerment in relation to women's health

Sen and Batliwala (2000) define empowerment as a process by which the powerless gain greater control over the circumstances of their lives. It includes both control over resources (physical, human, intellectual and financial) and ideology (beliefs, values and attitudes). Empowerment is considered an antidote to powerlessness, which has been implicated as a factor in poor health outcomes (Wallerstein, 1992; Stein, 1997). Wallerstein (1992) explains that powerlessness negatively influences health outcomes by operating through physical and social risk factors including poverty, high psychological and physical demands on the body, low control over one's life, high chronic stress, low social support, and lack of resources. According to Wallerstein (1992), empowerment is a process, which increases a sense of community, participation, self-worth, and reduces the social and physical risk factors for poor health.

Drawing on experiences of grassroots organizations engaged in efforts to empower poor women in South Asia (primarily India and Bangladesh), Kabeer (1994) argues that empowerment, which is rooted in the notion of "power", has three dimensions. The first is that of "power to", which refers to the interpersonal decision-making capacity of an individual to influence outcomes that may be against the wishes of other actors involved in the process. This notion of power has been defined as autonomy (Mason, 1986; Schuler and Hashemi, 1993). However, empowerment is viewed more broadly than autonomy, as it also requires that women have the "power over" resources, institutions, norms, rules, and practices to change structures that are the basis of their oppression. Another dimension of empowerment is "power within" to be conscious or aware that inequalities exist (Kabeer, 1994). This consciousness, as Kishor and Gupta (2004) state, involves having self-confidence and also an understanding of one's rights and entitlements. A concept related to empowerment is that of women's status. The low status of women's is what literature attributes to poor health outcomes (Stein, 1997). However, women's status can be enhanced by increasing their prestige without increasing their autonomy or empowering them. In South Asia, women gain prestige and hence status, by bearing sons and becoming mothers-in-law without concomitant gains in resources or power to transform their situations (Mahmud and Johnston, 1994; Mason, 1986).

Women's empowerment was traditionally measured using socio-economic

indicators such as education, income, and participation in labor force (Pradhan 2003). However, evidence reveals that even with increased education, income, and greater participation of women in the labor market, inherent gender biases in the schooling system, socialization of women to internalize their subordinate status, and the exploitation of women as a cheap labor source in the market place make it difficult to reduce entrenched gender inequalities and health disadvantages. Thus, Pradhan (2003) argues that in measuring empowerment, it is important to consider how women influence decision-making even under such conditions of structural sub-ordination. This requires developing measurable categories that go beyond conventional measures of empowerment. Stein (1997) argues that empowerment is a complex, multidimensional concept, which takes place in the household, community, organizational, political, and the broader societal realms. At the personal level, empowerment is measured in terms of constructs such as locus of control, self-efficacy, and self-worth, which represent the individual/internal dimensions (power within). Whereas, constructs such as control over resources, autonomy or decision-making, marital violence, social support, and mobility are considered situational/social components (power to) of empowerment (Stein, 1997). Along similar lines, Kishor (2000) offers a conceptual framework in which measuring empowerment through cross-sectional data requires indicators that measure the end-product of a process or indicators of evidence of empowerment (e.g. participation in household decision-making, freedom of movement, and belief in the ideal of gender equality). However, she argues that it is equally necessary to include measures that capture women's access to sources of empowerment (e.g. access to education, media, meaningful employment or other resources) and those that capture women's circumstances and opportunities available to them (e.g. age at first marriage, residence in a joint or nuclear family, large educational and age differences between husband and wife, and exposure to marital violence).

In developing measures for empowerment the following considerations were made for this study. First, situational rather than personal or internal dimensions were chosen to measure empowerment. The former included measures of decision-making, marital conflict and violence, and access to resources. These variables have been extensively developed and validated as measures of women's autonomy in relation to their fertility (Jejeebhoy, 1996; Mason, 1986; Mahmud and Johnston, 1994; Schuler and Hashemi, 1993). According to Kishor's (2000) framework, these variables reflect both

evidence and sources of empowerment. In choosing these measures, it was assumed, as Pradhan (2003) and Kabeer (1994) have suggested, that even within a larger context of unequal gender norms, practices, and lack of material resources, women have some agency to influence decisions and resist socio-cultural forces that expose them to health risks. Furthermore, social support was included as part of empowerment. Stein (1997) suggests that social support can be empowering in situations of scarce resources, or it can be "disempowering" by placing undue demands upon members of the social network. Lastly, measurement of empowerment was confined to the household level. As Mason (1996) argues, a household is the primary location in which decisions governing a woman's body, health, and seeking treatment are made.

Methods

Research Setting

The study was conducted in 6 villages in the Panchmahals district of the state of Gujarat, in western India. The district has 87.5% (Government of India Census, 2001) rural population, and a significant proportion of its population classified as "tribal" (47% according to the 1991 Census[2]). Literacy is 45% for women and 77% for men in this district, well below national averages (54% for women and 76% for men) for women (Government of India Census, 2001). It is considered to be the least developed district of the state, with a development index of 1.00, lower than that of the state (2.01), and at the lower end of the national scale (1.0-3.0; http://mapsofindia.com/stateprofiles/gujarat; Government of India Census, 1991). The economy is mainly agricultural, with 82% of its working population involved in agriculture. Average land holdings are small, with most of them (90%) depending on highly erratic rainfall, leaving households vulnerable to drought and crop failures (Sarin, 1996; Sharma, 1996). Because of small land holdings, the population also depends on its forests for supplementary income. However, forest degradation and the lack of alternative employment opportunities have resulted in acute hardship for people of this district, leading to permanent and seasonal out-migration (Sarin, 1996). Men control land and productive resources, and women are responsible for domestic and agricultural tasks (Sharma, 1996). Participation in community decisions is the domain of men. Women bear the brunt of environmental degradation and drought, as they fetch firewood and water, and work alone in the fields

2 Other than urban and rural population and literacy statistics, 2001 census data are not available for any other parameters at the district level including tribal population and development indices. Therefore we have used 1991 census data at the district level for these statistics

when husbands migrate for labor. Marital abandonment and domestic violence are common problems faced by women in this area (Khanna, 1992).

Medical anthropology literature from developing countries suggests that treatment-seeking behavior should be considered in context of medical pluralism (Nichter, 1978, 1980; Young, 1981; Kamat, 1995), which refers to the use of multiple health care sources simultaneously or sequentially (Helman, 1990). Consistent with this literature, the women in the Panchmahal district have access to and make use of a range of health care options for various ailments including gynecological symptoms. During the course of the study, names were gathered of at least 40 allopathic practitioners and 10 traditional healers from whom women had sought treatment for various ailments. A majority (37) of the allopathic practitioners are from the private sector, and located in the two main towns of the district within a radius of 20 kilometers from the study villages. Several practitioners are trained in "*Ayurveda*", but practice allopathy. There are several practitioners with no formal medical training or license dispensing allopathic medicine. In the government health system, there are two primary health centers (PHC) within a radius of 5 kilometers from the study villages. Community Health Centers (CHC) or secondary level referrals are located in the two towns within a radius of 20 kilometers, and a tertiary care hospital is located in the district capital at a distance of 50 kilometers. The two towns are also serviced by pharmacies that dispense with or without prescriptions. The study villages have three types of traditional healers, which include herbalists ("*junglee dava*"), faith healers ("*bhagats*" who give amulets to protect from the evil eye), and witchcraft healers ("*badava*" or "*bua*" who heal by exorcising witch possession). Women use witchcraft and faith healers for infertility and to ensure that a pregnancy is carried to term. Herbalists give treatment for reproductive health problems using a variety of plants and shrubs from nearby forests.

Data Collection

The villages were selected from those covered by programmes of the collaborating non-governmental organisation (NGO) - SARTHI. SARTHI has been working in the district for the last 20 years, covering over 150 villages with a population of over 100,000. It implements integrated rural development programs including

women's health[3] (SARTHI annual report 1995-1996). Data for this paper are obtained from a survey (second) phase of a two-phase study. The survey was conducted in 4 villages, selected according to population size, presence of different types of SARTHI programs, road access, and familiarity of SARTHI staff with the villages. All married women in the reproductive age group (15-49) residing in the villages were included in the sample. Four teams, each consisting of a SARTHI male health worker and 2 women, were trained in concepts of reproductive health, gynecological morbidities, and survey methods. The sample size was 476 households and 573 women. Eighty-one percent of eligible households and 78.5% of eligible women were available and agreed to participate in the study. Data were entered in EpiInfo (version 6.04, CDC and WHO, 1997), and transferred to SPSS (version 7.5, SPSS Inc, 1997) for analysis.

The survey consisted of 3 questionnaires administered at the first contact with the household. The first obtained household information on members, economic status, and the use of and access to health services. The second gathered information on women's socio-demographic characteristics, followed by questions on whether the woman reported one or more symptoms of gynecological morbidities including RTI and STI within a 6-month recall period. The symptoms were defined according to the criteria recommended by Zurayk et al (1993) and a WHO technical group on reproductive morbidities (1989). They included 1) menstrual disorder; 2) vaginal discharge; 3) lower abdominal pain; 4) urination problem; 5) genital area boils, ulcers, itching; 6) sexual intercourse problems; 7) prolapse; and 8) infertility. Women who reported one or more of the 8 symptoms were administered a third questionnaire on symptom characteristics, perceived severity of symptoms, and treatment-seeking behaviors.

The third questionnaire also included measures of empowerment such as questions on a woman's ownership of assets, whether she worked for wages, kept that income and had a say in spending it (i.e. access to resources and financial decision-making), whether she participated in keeping and spending household income (financial decision-making), participation in other household decisions, and her experience of

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3 The women's health program has trained local women as traditional birth attendants, and as barefoot gynecologists who can use speculums, conduct pelvic examinations, and provide treatment with validated local plant-based medicines

marital conflict and violence (e.g. fear and actual experience of abandonment, physical violence, and sexual coercion). Questions related to decision-making, asset ownership, and nature of marital relationship were partly derived inductively from findings of the qualitative phase of the research (results reported in Amin and Bentley 2002) and partly developed from the literature on empowerment and autonomy (Mason, 1986; Schuler and Hashemi, 1993; Jejeebhoy, 1996; Mahmud and Johnston, 1994; Govindasamy and Malhotra, 1996; Balk, 1994; Stein, 1997). Questions related to mobility were not included in the survey after qualitative data revealed that decisions related to women's freedom of movement outside their homes and villages were dictated primarily by the logistics of distance of the villages from main roads and towns, finding transportation to move about, and the time demands of women's heavy workloads (Amin, 2000).

Data Analysis

Data for this paper are based on a sub-set of 267 women who reported at least one gynecological symptom and were administered the third questionnaire. However, in the bivariate and multivariate analyses, the sample size (N=256) was restricted even further by excluding those who reported only infertility. Women with infertility were excluded from these analyses because qualitative data reported elsewhere (Amin, 2000) suggested that there is a strong emphasis on bearing children in this cultural context. This leads women doing everything possible to treat infertility and symptoms perceived to be associated with it. By excluding infertility from the analysis, I sought to minimize over-representation of women who had most certainly sought treatment for infertility. Analysis of survey data is presented as 1) types of illness behaviors; 2) empowerment characteristics of the sample; and 3) predictors of health seeking – the role of empowerment and social support. Literature suggests that perceived severity of the illness very strongly influences treatment seeking (Thaddeus and Maine, 1994; Kroeger, 1983; Bhatia and Cleland, 1999; Nichter, 1978). Therefore, where women reported more than one gynecological symptom, the symptom ranked by women as more severe was followed for treatment seeking. The outcomes included: 1) symptom communicated to at least one person; 2) any treatment including traditional healers, private and government allopathic practitioners sought outside the household (home remedies was grouped with no action at all); and 3) treatment sought from government or private allopathic practitioners.

Backward stepwise logistic regression was performed with each of the three outcomes, with criteria of inclusion set at $p< 0.05$. The independent variables of interest were measures of women's empowerment including social support networks and women's level of participation in the NGO-SARTHI. Control variables include age, women's literacy, parity, household economic status, caste, husbands' education, whether husband ever migrated, and contraceptive use. The models also included the type of symptom followed for treatment seeking, and the presence of at least 2 symptoms. The models were adjusted for the presence of severe non-gynecological symptoms in the 6-month recall period, as it was assumed that co-morbidity might influence treatment seeking for gynecological symptoms. The multivariate models were also adjusted for differences in treatment seeking by village, as this variable serves as a proxy for level of development in the village (e.g. access to health services, electricity, school and water resources for agriculture). Perceived severity ranking of the symptom followed for treatment seeking was excluded from the final models of all three outcomes, as symptoms followed for treatment seeking were selected for their higher perceived severity. Thus, perceived severity was highly collinear with the outcome variables.

Several measures of women's empowerment were excluded from the multivariate analysis. For example, only a very small subset of women earned their own wages therefore, the measure - participation in keeping and having a say in spending wages earned by self was not applicable to the larger sample of women with symptoms. Likewise, during analysis it was discovered that participation in household decisions (e.g. cropping decisions, purchase and selling of cattle, health-care, contraception use) were applicable only to a small subset of women and thus, excluded from the analysis[4]. The measures of women's empowerment that were considered for multivariate models included: 1) ownership of at least one asset; 2) whether the woman worked for wages; 3) participation of woman in keeping household income and having a say in spending it (i.e. financial decision-making); and 4) marital inequality index (based on exposure to marital conflict and violence). Based on Mason's (1986) argument, a woman's status in relation to the mother-in-law was considered as a separate variable from measures of women's

4 The problem turned out to be that questions on household decision-making were framed within a specific time frame (e.g. within the last year have you participated in decisions related to contraceptive use or health care for yourself etc). Thus, narrowing the time frame excluded a large subset of women who did not participate in those decisions in that year

autonomy[5]. Unlike other studies, instead of combining various measures of women's empowerment into a single index, the empowerment variables were entered separately in order to disaggregate the influence of different types of measures on treatment seeking. This was based on the assumption that as a multi-dimensional construct, different components of empowerment would act differently to influence treatment seeking. Likewise, the construct of social support was based not only on having received support of a specific type (i.e. financial, care and help during illness, and emotional), but was also quantified as an aggregate score of numbers of individuals providing a particular type of support. The aim of disaggregating various types of support received was to tease out whether certain types of support are more useful than others in explaining treatment seeking. In addition, level participation of the woman in the NGO –SARTHI was considered as a measure of social capital[6]. The development of the empowerment constructs is summarized in the Table 1

Table 1: Variables developed for multivariate analyses

Name	Type	N	Notes
Size of emotional support network	Categories (3) Index	267	Social support was measured for 9 items. For each item, respondent was asked to name 1-3 people they obtained support from. Factor analysis revealed 3 factors, loading 2 items each. The item – with whom did the woman share her worries and problems loaded high for a factor termed as emotional support network. The index was created, with women who said no one or only one person given 1 point, women who named 2 persons – given 2 points, and women who named 3 persons given 3 points. The size of the network for emotional support is labeled as small, medium or large.
Size of financial support network	Categories (3) Index	267	Factor analysis for social support yielded another factor loading high on items – who lends you money for personal needs and who lends you money for household needs. An additive index was created based on number of individuals named for each of the two items. Women with 0-1 points were categorized as having a small network; 2-3 points were categorized as having a medium network, and 4-6 points as a larger network.

5 Women's status in relation to their mother-in-law is similar to the joint versus nuclear residence indicator that Kishor (2000) cites as being a measure of setting for women's empowerment. I defined it as such, because in this setting where clan groups live in the same hamlet and in close proximity, presence of mother-in-law is a better indicator of status than type of residence

6 According to the social capital literature, participation in civic organizations provides individuals with access to resources, information through formal networks (World Bank, 2004). This can facilitate positive health outcomes. Level of participation in SARTHI is therefore, included as a measure of women's social capital

Size of network for care and help during any illness	Categorical (3) Index	267	Factor analysis for social support yielded another factor loading high on items – who looks after you when you are sick and who helps you with your work when you are sick. An additive index was created based on the number of individuals named for each of the two items. Women with 0-2 points were categorized as having a small network, 3-4 points a medium network and 5 or 6 points have a larger network.
Woman's level of participation in SARTHI-NGO[7]	Categorical (3) Index	573	Created from an index of 0-3 points. A woman had 0 points if she had never had any contact with SARTHI, 1 point if she had some contact, 2 points if she submitted her name for at least one program of SARTHI and 3 points if she attended meetings organized by SARTHI. Zero points meant no participation, 1 point meant low participation and 2 or 3 points meant higher participation in SARTHI
Ownership of resources (access to resource)	Categorical (2) Index	267	Woman's ownership 6 items – land, cattle, jewelry, savings, bank account and house was examined to develop an additive index. A reliability analysis yielded an alpha of 0.65 for five items. The index ranged from 0-5 points, and based on the distribution it was re-coded to – ownership of at least 1 resource
Woman worked for wages	Categories (2)	267	Women were asked, if they did any work for which they received wages. This variable is a measure of women's access to cash income.
Personal income financial decision making	Categories (2)	76	Women who kept their own income and had a say in spending it - themselves, or jointly with husbands were given a score 1. Women for whom the husband alone or others kept the income and had a say in spending it were given a score of 0.
Household income financial decision-making	Categories (2)	267	Women who kept household income and had a say in spending it themselves or jointly with husbands were given a score of 1. Women for whom husbands alone or others in the household kept household income and had a say in spending it were given a score of 0.
Marital inequality index (exposure to marital violence and conflict)	Categories (2) Index	266	6 items - fear of beating and abandonment by husband, actual beating by husband, frequency of fights with husband, experience with forced sex and ever refused sex to husband were considered for an additive index. Reliability analysis yielded an alpha of 0.64 for 5 items. The item - ever refused sex to husband was dropped. An index with ranging from 0-6 points was developed. Based on the distribution of women, women with 0-4 points were categorized as having higher domination by husband, or higher inequality in the relationship. Women with 5 or 6 points on the index were categorized as having lesser domination by husband, or lesser inequality in the relationship.
Woman's status	Categories (3) Index	573	This variable measured women's status or position relative to other women in the household in terms of age and social relationship. Women who did not have mothers-in law were coded as having a high status,

7 This indicator was collected for the entire sample of women interviewed for reporting of gynecological symptoms.

			women who had mothers-in-law in the hamlet, but living separately were categorized as medium status; and women with mothers-in-law living with them were coded as a low status.
Outcomes			
Symptom communicated to at least 1 person	Categories (2)	254	For the symptom selected for treatment-seeking history, women who communicated the symptom to at least one person were coded 1 and the rest 0
Any treatment sought outside the household	Categories (2)	256	For the symptom selected for treatment-seeking history, this variable was constructed based on whether the woman had sought any treatment at all - traditional or allopathic, initial or subsequent, excluding home remedy
Any allopathic treatment – private or government	Categories (2)	256	For the symptom selected for treatment, this variable was constructed based on whether the woman had sought any treatment initially or subsequently from a private or a government allopathic practitioner.

Results

Types of illness behaviors

Frequencies of women's responses to gynecological symptoms are summarized in Table 2. A majority of women reporting gynecological symptoms communicated them to at least one person. Seventy-two percent discussed them with their husbands, followed by sisters-in-law (11%) and mothers-in-law (11%). A majority (86%) continued to work during their illness. A third of the women took increased rest, and nearly three-fifths of them avoided sex during the illness. Qualitative data, reported in a separate paper (Amin and Bentley, 2002), explained these findings, showing that the demands of work in this setting are so high that unless symptoms were severe, women continued to work.

Of the women who reported one or more gynecological symptoms, 12.5% used home remedies to treat their symptoms. Qualitative data (reported in Amin, 2000) indicated that women also included dietary modifications or avoidance of certain foods considered to be "hot" (humoral imbalance or internal heat) as home remedies. Whereas, in the survey home remedies was defined separately from dietary changes. Therefore, by considering dietary modifications as home remedies, the proportion of women who used dietary modifications as home remedies increases to 41% (Table 2). Qualitative data (reported in Amin, 2000) clarified that while some women exclusively modified their diets in response to symptoms as home remedies, others modified their diets and took traditional or allopathic medicines. No woman reported any self-treatment

through purchase of over the counter drugs. Any treatment outside the household including traditional and allopathic was sought by 46% of women reporting symptoms. Out of total number of symptomatic women who were included in the analysis, 32% sought care in the formal allopathic sector and 20% sought care from traditional healers (Table 2). Private practitioners remained the most popular source of allopathic care (data not shown).

Table 2: Type of illness behaviors associated with gynecological morbidities[8]

Type of illness behaviors for gynecological symptoms	% women	# women
Symptom communicated with at least one person (N=254)	75	190
Any treatment sought outside the household (N=256)	46	119
Any allopathic (govt. or private) sought (N=256)	32	81
Any traditional healer treatment sought (N=256)	20	51
Any home remedy sought (N=256)	12.5	32
Woman continued working through out the illness (N=256)	86	220
Woman changed diet during illness (N=255)	41	104
Woman rested more during illness (N=255)	36	91
Woman avoided sexual intercourse during illness (N=255)	57	144

Empowerment characteristics of the sample

In Table 3, the empowerment and social support characteristics of women who reported one or more gynecological symptoms (N=267)[9] are presented. A quarter of these women reported ownership of at least one resource such as land, jewelry, cattle, bank account, savings, and a home. Fifty-five percent women participated in keeping household income and had a say in spending it (financial decision-making for household income). Few women worked for wages (28.5%), and of those, a majority (82%) kept their income either by themselves or jointly with husbands (financial decision-making for personal income).

Table 3. Women's empowerment characteristics including social support (N=267)

Empowerment Characteristics	N	% of women
Ownership of at least one resource	68	25.5
Household income financial decision-making (N=267)		
Self or jointly with husband	146	55
Work for wages		
Yes	76	28.5
Personal Income financial decision-making (N=76)		

8 Percentages are based on number of women who reported one or more of seven gynecological symptoms excluding infertility. The N varies because of missing information due to no response

9 This includes women with infertility, who are excluded from the multivariate analysis of treatment-seeking

Self or jointly with husband	62	82
Level of marital inequality (Marital inequality index) (N=266)		
More	84	32
Less	182	68
Ever feared beatings from husband	56	21
Ever experienced beatings by husband	46	17
Ever experienced forced sex by husband	18	7
Ever refused sex to husband	82	31
Frequency of fights / scolding from husband		
Frequently	19	7
Occasionally	128	48
Never	120	45
Ever feared abandonment by husband	22	8
Size of emotional support network		
Small (0 or 1 person)	138	52
Medium (2 persons)	82	31
Large (3 persons)	46	17
Size of care and help during illness network		
Small (0 -2 persons)	66	25
Medium (3 or 4 persons)	125	47
Large (5 or 6 persons)	76	28
Size of financial support network		
Small (0 or 1 person)	64	24
Medium (2 or 3 persons)	123	46
Large (4 –6 persons)	80	30

Based on the marital inequality index, nearly a third of women experienced greater inequality in their relationship with husband. According to the distributions of the items in this index, 17% of women reported beatings from husband and a slightly higher proportion feared that they would be beaten. Occasional to frequent fights and rebukes from the husband were reported by more than 50% of women. Less than 10% of women reported sexual coercion, and nearly a third of the women reported having refused sex. Measures of social support networks indicate that 52% of women had small networks for emotional support (0 or 1 person), and 75% of women had medium (2-4 persons) sized financial support and care and help during illness networks.

Predictors of health seeking – the role of empowerment and social support

In bivariate analysis of factors (Table 4) associated with all three outcomes of health seeking, the relationship between size of the emotional networks and all three outcomes of health seeking is significant. A greater proportion of women with large emotional networks (3 persons) communicated their symptoms and sought treatment than women with smaller networks (0-1 persons). However, financial support and care and help during illness networks are only significantly associated with the outcome

symptom communication, but not with seeking treatment. A greater proportion of women with a higher level of participation in the NGO – SARTHI also communicated their symptoms and sought treatment for their symptoms compared to women with no participation in SARTHI.

Table 4: Bivariate analysis of health-seeking behaviors[10]

Characteristics	Symptom communication (N=254)	Any treatment sought (N=256)	Allopathic treatment sought (N=256)
A) Measures of social support networks and social capital			
Size of network for emotional support	**	*	*
Small / None or low	66	39	27
Medium	82	54	29.5
Large	90.5	56	49
Size of network for financial support	*		
Small/None or low	66	44	33
Somewhat more	73	45	31
Large	85	49	31
Size of network for care and help during illness	***		
Small / None or Low	59	41	25
Medium	77	43	30
Large	85	55	38
Level of participation in SARTHI	**	*	**
None	69	42	28
Low	86.5	46	24
Higher	87	63	50
B) Decision-making, access to resources, exposure to violence, and status			
Woman owns at least one or more of 6 resources	*	*	**
No	71	42	26
Yes	86	59	47
Woman works for wages			
No	76	47	30
Yes	73	45	34
Personal income financial decision-making			
No personal income or say in personal income spending	75	46.5	30
Joint with husband or self say in personal income	73	45	37
Household income financial decision-making		**	**
Others have say in household income	73	38	23.5

10 p<0.05=*; p<0.01=**; p<0.001=***

Joint with husband or self have say in household income	77	53	38
Level of marital inequality		*	*
Higher	71	36	22
Lower	76	51	36
Woman's status		*	
High (no mother-in-law)	77	56	40
Medium (mother-in-law living separately)	77	50	31
Low (mother-in-law living together)	71	34	25
C) Symptom Characteristics			
At least 2 symptoms reported		*	*
No	71	39	24.5
Yes	78	51	36.5
Type of symptom	*		
Menstrual Disorders	73	38	26
Vaginal Discharge	66	50	33
Lower Abdominal Pain	93	51	33
Urination Problems	76	43	33
Others (Genitital boils, sexual discomfort and prolapse)	79	53	37
Perceived severity	***	***	***
Not or less severe	47	20	13 (7)
Somewhat severe	75	46	26.5
Very severe	92	63	50

Among measures of decision-making and access to resources, women's ownership of at least 1 resource is significantly associated with all three outcomes of health seeking, with a greater proportion of women owning at least one asset communicating their symptoms and seeking treatment than those owning no assets. Household income financial decision-making is significantly associated with only the two outcomes of treatment seeking (i.e. any treatment and allopathic treatment sought), with a greater proportion of women who participated in household income decisions either by themselves or jointly with husbands seeking treatment than those women where either the husband alone or others made financial decisions. And lastly, among variables measuring symptom characteristics, a significantly higher proportion of women reporting at least 2 symptoms sought treatment (both any and allopathic) compared to those that did not. Moreover, a very high proportion (93%) reporting lower abdominal pain communicated their symptoms, but this symptom did not influence treatment seeking. As expected, perceived severity is very significantly associated with all three outcomes.

In multivariate analysis of predictors of symptom communication (Table 5), women with large emotional support are significantly more likely (OR=7.5) to

communicate their symptoms to at least one person compared to those with small networks. Similarly, size of network for care and help with work received during illness shows a linear and significant trend of association with symptom communication such that women with medium size networks are 5 (OR= 5.2) times more likely and those with large networks nearly 8 times (OR = 7.76) more likely to communicate their symptoms than women with small networks. Surprisingly, level of participation in SARTHI is not significantly associated with symptom communication in the multivariate analysis.

Table 5: Logistic regression for predictors of health seeking[11].

Characteristics	Reference Category	Symptom Communication (N=244)	Any treatment (N=248)	Allopathic treatment (N=248)
A) Measures of social support & social capital				
Size of emotional support networks	Small			
Medium		1.85	1.72	0.69
Large		7.5*	2.50	4.23***
Size of care &help during illness networks	Small			
Medium		5.17**	Not Incl.	Not Incl.
Large		7.76***		
Level of participation in SARTHI	None			
Low		2.14	0.85	0.43
Higher		0.86	1.25	1.14
B) Decision-making, exposure to violence, and status				
Household income financial decision-making	Others			
Self or jointly with husband		3.13*	1.70	2.35*
Level of marital inequality	Higher			
Lower		1.11	2.05*	2.58 *
Woman's status	No mother-in-law			
Mother-in-law living separately (medium)		0.92	0.60*	0.44*
Mother-in-law living together (low)		0.71	0.45*	0.46
C) Symptom Characteristics				
At least 2 gynecological symptoms	No	Not Incl.		
Yes			2.74***	3.46**

11 N < 256 because of missing information in some variables; p<0.05=*; p<0.01=**; p<0.001=***; Models are adjusted for village level differences; Standard errors are adjusted for clustering on hamlet using robust variance. Not Incl refers to variables not included in the final model as p> 0.1, and they did not meet the inclusion criteria

Type of symptom	Menstrual Disorder		Not Incl.	Not Incl.
Vaginal Discharge		0.49		
Lower Abdominal Pain		24.98***		
Urination Problems		2.14		
Other(genital, painful sex, prolapse)		1.54		
Other severe morbidity in the last 6 months	No			
Yes		0.96	0.55	0.38
D) Woman's socio-demographic				
Age	< 20 years			
21-25		2.99	1.70	2.87
26-30		5.58	1.87	5.88*
31-35		2.28	3.67	5.50*
36+		2.53	2.14	5.12*
Woman literate	No		Not Incl	Not Incl.
Yes		7.27***		
Parity including current pregnancy	0			
1		4.62	1.83	0.96
2-4		1.95	4.09*	1.34
5+		1.84	3.39	1.05
Type of contraception	None			
Tubectomy		1.39	3.64**	3.69**
Laparoscopy		1.00	0.99	1.09
E) Household characteristics				
Husband's Education	< 7yrs can't read/write			
0-7 yrs, can read and write		1.77	1.01	1.88
8-10 yrs		0.63	1.00	2.04
11,12 and some college		1.04	1.77	3.64**
Husband ever migrated	No			
Yes		0.88	0.50**	0.68
Household economic status	Lowest			
Low		2.35	0.75	0.60
Medium		4.88**	0.76	0.68
High		3.00	0.77	1.01
Caste	Other Caste			
Tribal		0.68	0.71	1.76
Scheduled Caste		0.42	0.50	1.41
Model chi-square		89.21***	62.77***	70.89***
Pseudo- R^2		0.33	0.18	0.23
Predictive Efficiency %		81.56	66.94	78.63

Household income financial decision-making is significantly associated with symptom communication. Women participating in household financial decisions are 3 times (OR=3.13) more likely to communicate their symptoms than those who don't. There is no significant pattern of association between level of marital inequality and symptom communication (Table 5). Woman's status relative to other women in the household also shows no significant pattern of association with symptom

communication. A woman's ownership of at least one resource did not meet the criteria of inclusion and therefore, was excluded from the multivariate model. Women who reported lower abdominal pain are significantly more likely (OR=24.98) to communicate their symptoms than women who reported menstrual disorders. Literate women (OR=7.37) are also significantly more likely to communicate their symptoms than illiterate women (Table 5). No other control variables are significantly associated with symptom communication, except household economic status. However, the relationship between household economic status and symptom communication is not linear or consistent.

For the outcome any treatment outside the household, the size of network for emotional support shows an increasing and linear, but not significant trend of association with any treatment sought outside the household (Table 5). However, this same variable is significantly (but not linearly) associated with the outcome allopathic treatment sought. Women with large emotional networks are 4 (OR=4.2) times more likely to have sought allopathic treatment than those with small networks. Participation in SARTHI is not significant in explaining treatment seeking at the multivariate level.

Financial support and care and help during illness networks were excluded from the multivariate models of any treatment and allopathic treatment sought, as they were not significant at the bivariate level. The level of marital inequality is significantly associated with both outcomes of treatment seeking. Women who experience lower level of marital inequality (i.e. higher equality) are 2 (OR= 2.05) times more likely to see any treatment outside the household and 2.5 (OR=2.58) times more likely to seek allopathic treatment compared to women who experience higher level of marital inequality (i.e. lower equality). A woman's status relative to other women is significantly associated with treatment seeking, with women who have mothers-in-law living separately (medium status, OR=0.60), or living together (low status OR=0.45) being significantly less likely to seek any treatment outside the household compared to those who don't have mothers-in-law (higher status).

Reporting of at least 2 symptoms is significantly associated with both outcomes of treatment seeking. Women who reported at least 2 symptoms are nearly 3 (OR=2.74) times more likely to seek any treatment and 3.5 (OR=3.46) times more likely to seek

allopathic treatment compared to those who reported less than 2 symptoms. Among control variables that were included in the model for any treatment and allopathic treatment sought, age of the woman is significantly and linearly associated with allopathic treatment sought. Husband's educational status is also linearly associated with allopathic treatment sought and significantly higher for women whose husbands had completed secondary education than those whose husbands had less than 7 years of schooling. And lastly, women who had undergone tubectomy are significantly more likely to have sought any and allopathic treatment compared to those who had not been sterilized.

Discussion

Two key findings emerge from this study. First, women adopt a range of strategies to resolve their gynecological symptoms including dietary modifications and other home remedies, approaching traditional healers and seeking allopathic care. Consistent with most Indian studies that have reported treatment-seeking rates in the formal health sector of less than one-third women (Rani and Bonu, 2003; Ravindran, 1995; Sharada et al., 1997), this study shows that around 32% of symptomatic women sought allopathic treatment, mostly from private practitioners. However, the data did not distinguish between qualified and unqualified private providers. Thus, it is possible, that women who sought care from private practitioners actually approached unqualified providers. Second, bivariate and multivariate analyses show that measures of women's empowerment including social support networks, decision-making, status, and marital conflict and violence are significant predictors of symptom communication and treatment seeking for gynecological including RTI and STI symptoms. However, certain measures of empowerment play a more significant role in predicting symptom communication versus treatment seeking than others.

The findings show that large emotional and care and help during illness networks play a significant role in explaining symptom communication. The significance of the latter network is perhaps because women may have to share their symptoms in order to justify the need for care and help during illness. Three possibilities explain how and why large emotional networks are associated with symptom communication. Where women already have a large network that they confide in, it is more likely that they will share the symptoms to at least one member of such a network. Alternatively, qualitative

data from this study reported elsewhere (Amin and Bentley, 2002) and survey data that 72% of women confide symptoms to their husbands indicate that husbands are central to women's emotional networks. Thus women with large emotional networks most likely have husbands as part of this network. This interpretation is consistent with other Indian studies that also found women mostly confiding symptoms to their husbands (Oomman, 1996; Jejeebhoy and Koenig, 2003). Furthermore, given the cross-sectional nature of the data, it is also possible that the reverse causation explains the findings. That is, larger emotional networks emerged as a result of women experiencing symptoms, confiding about them, and through the process of seeking information and treatment.

The results also reinforce the importance of having large emotional support networks in treatment seeking, especially for allopathic treatment. However, size of care and help during illness networks is not associated with any of the outcomes of treatment seeking. The difference in the role of the two types of networks in facilitating treatment seeking can be explained by qualitative data from this study reported elsewhere (Amin and Bentley, 2002). Amin and Bentley (2002) report that networks for care and help during illness consist mainly of women (e.g. daughters, sisters-in-law) who are not decision-makers for treatment. Therefore, this network may not be relevant to treatment seeking. Whereas, emotional networks include husbands as key members who are as such, the main decision-makers for the couple and the household. This means that women with large emotional networks are relying on husbands for making a decision to seek treatment, especially allopathic care.

This interpretation is reinforced by two other findings of this study: 1) women whose husbands have higher levels of education are also more likely to seek allopathic treatment than husbands with no or less schooling; and 2) women experiencing a higher level of marital inequality (i.e. greater marital violence) are less likely to seek treatment than women with lower marital inequality. Both these findings along with the relevance of emotional networks point to the central role that husbands play in enabling women to seek treatment for their symptoms – either because more educated husbands are likely to be more exposed, informed and able to seek information for their wives, or in situations of greater marital violence, husbands are less likely to be supportive of their wives seeking treatment. Surprisingly, financial support networks do not play a role in facilitating treatment seeking. One possible explanation, based on findings of qualitative

data (reported in Amin, 2000), is that financial support from extended family or clan networks is usually sought only for very serious illnesses that require high financial resources. Whereas, gynecological symptoms are not considered to be very serious illness and often dismissed as normal women's problems unless they incapacitate the woman from fulfilling her reproductive and work roles. Thus, women or their husbands may not see it necessary to seek financial support from their networks to seek treatment for gynecological symptoms and instead, rely on existing household resources to pay for treatment.

The data also demonstrate that women's participation in keeping household income and having a say in spending it plays a significant role in both symptom communication and in seeking allopathic treatment, but not in seeking any treatment outside the household. These findings can be interpreted in several ways. One is that women who participate in financial decision-making are more empowered to articulate their illness to someone in their networks (most likely their husbands) either because they are more aware, more confident, or willing to seek information and take action on their illness. Literature on women's empowerment and fertility supports this interpretation as studies have found that where women are involved in household financial decision-making, it enhances their ability to take their own needs for health and well-being into account (Mahmud and Johnston, 1994; Govindasamy and Malhotra, 1996). Alternatively, where women do have a say in spending household income, they are perhaps, more aware of resources available to them and therefore, more likely to articulate their symptoms and demand those resources for treatment. On the other hand, participation in household financial decisions is not significantly associated with women seeking any treatment outside the household. I argue that for any treatment sought, which includes traditional healers, it may not be important for the woman to negotiate for the household income, as traditional healers in this setting are often paid in kind (e.g. in exchange for grains or food). Whereas, for allopathic treatment, women's ability to participate in household financial decisions turns out to be important, perhaps because they need to be aware of the household's financial resources to be able to pay for allopathic treatment.

In this study, whether a woman works for wages is not significantly associated with symptom communication or treatment seeking, even though literature has pointed

out the importance of this measure in predicting fertility outcomes (Mason, 1986; Schuler and Hashemi, 1993). One explanation for this lack of association is that in agrarian communities such as the study setting, women receive crops and food as wages instead of cash income, so that their contribution to household income might not be significant, or valued for them to be able to negotiate for their own health needs. Alternatively, due to acute poverty, which often necessitates women to work for wages, personal wages are pooled with household income and spent for household needs (Mahmud and Johnston, 1994; Blumberg, 1991). Thus having a personal income may not really make any difference to women's own treatment seeking. Qualitative data for this study reported elsewhere (Amin, 2000) indicate that women not only pool their own wages with household income, but due to acute poverty, prioritize spending on household rather than personal needs. Thus any role that women's access to employment might play in empowering them is perhaps, offset by household poverty, and the greater priority given to household and needs of more valued members such as men, or the more vulnerable members such as children.

Finally, several socio-demographic characteristics play a role in influencing women's treatment seeking. For example, the significance of female literacy in predicting symptom communication suggests that education plays a role in providing women the confidence to articulate symptoms (Christakis et al. 1994; Caldwell and Caldwell, 1994). As Christakis et al (1994) explain, female literacy leads to better recognition of symptoms through better exposure, knowledge, and positive attitudes towards health. Researchers examining links between women's access to education and empowerment have also argued that female literacy provides a setting for empowerment – that is it creates circumstances for women to at least recognize and articulate their symptoms (Kishor and Gupta, 2004). At the same time, the findings show that female literacy does not necessarily enable women to seek treatment. Thus, while literate women may be able to articulate symptoms, they are not necessarily empowered enough to make the decision to seek treatment. One possible explanation is that literate women in this study were mostly younger women – ages 25 years or less. As such, they constitute a group that is newly married and therefore, because of their low status and young age are likely to have a voice in decisions related to their own health. This interpretation is reinforced by another study finding that older women are significantly more likely to seek allopathic treatment than younger women, especially those less than

20 years of age.

Lastly, having undergone tubectomy (or tubal ligation) as a sterilization operation plays a significant role in treatment seeking. This finding is interpreted in light of other studies in India that have found links between women's experience of tubal ligation and both reporting and actual diagnosis of gynecological morbidity and RTI (Jejeebhoy and Koenig, 2003). It is likely that women in this study who underwent tubectomy linked their symptoms with this operation and thus, went back to the formal allopathic sector for treatment. Qualitative data (reported in Amin, 2000) support this assertion, as many women cited sterilization as one of the causes of their symptoms. Alternatively, it is also possible that women who underwent tubectomy did in fact experience acute and more severe gynecological symptoms and therefore, sought treatment for them.

The findings of this paper are interpreted with several caveats. First, given the cross-sectional and retrospective nature of the data, no causation can be inferred. Moreover, only symptomatic women who reported symptoms are included in the analysis. This means that there is a possibility that the sample over-represents women who sought treatment, as they would be more likely to recall and report symptoms than those who did not seek treatment. A similar bias is likely to occur around perceived severity. As explained in the methods section, where women reported more than one symptom, the more severely ranked symptom was selected for treatment seeking. This means that the sample also overestimates those women with more severe symptoms who are in turn more likely to seek care than women whose symptoms are less severe. Clearly, a longitudinal study design would offset some of these biases, or at least assist in estimating the extent of such bias. Furthermore, due to poor framing of questions related to household decision-making, only single variable of financial decision-making was available as an indicator of women's autonomy. Whereas, availability of household decision-making indicators would have enabled the formation of a more composite index and thus, strengthened the measurement of the autonomy construct. Indicators of empowerment not measured in this study such as those that capture women's beliefs about gender equality or those that measure their self-efficacy would have also strengthened this analysis. Furthermore, these findings have to be interpreted within a context of a small sample size that is specific to this setting of tribal, rural Indian women and therefore, cannot be generalized to a larger population. Lastly, another outcome

that would have strengthened this analysis is to examine determinants of the length of time women took to seek treatment (i.e. predictors of early versus delayed treatment seeking). From an intervention point of view it is necessary not only to understand barriers to treatment seeking, but also barriers to early treatment seeking. This study did in fact measure the length of time women took to seek treatment and found that where women sought treatment, they did so after a considerable length of time. However, the sample for this outcome was very small and therefore, not examined further.

Implications for interventions and policy

Despite the limitations, this study offers several critical insights for program and policy development. As the HIV epidemic expands rapidly in India and worldwide, especially among women, it is essential that women are not only encouraged to seek early treatment for their STI symptoms, but also to use reproductive health and HIV/AIDS services. Thus, understanding barriers women face in seeking treatment and accessing health services is crucial. First, the role of emotional support in encouraging treatment seeking points to the need for developing and strengthening women's social networks. Such networks can be involved in providing information on a range of issues including STI symptoms, appropriate treatment and health-seeking behaviors as well as how to prevent and manage STI and HIV/AIDS. Creation or strengthening of such networks can also enable women in their health seeking through shared workload and child-care, or by simply providing moral support. The importance of women's participation in household finances in influencing seeking allopathic treatment points to the need for women to be able negotiate for their own financial resources. In relation to this, it may worthwhile to consider interventions such as credit programs that may enhance women's empowerment by increasing their contribution to household income, providing opportunities to earn income through entrepreneurial activities, and increasing their mobility and self-esteem (Schuler and Hashemi, 1994).

Several findings make a strong case for increasing male roles and responsibilities in enabling women's health seeking and their reproductive health outcomes. These include the role of emotional support received from husbands, of educated husbands, and of higher marital inequality in the form of violence in either facilitating or obstructing treatment seeking. Thus programs and policies need to address gender sensitization of both men and women by raising awareness of 1) their

rights and responsibilities in relation to sexual and reproductive health; 2) the need for men to share women's workload; and 3) institutions and norms perpetuating gender inequities with direct and indirect consequences on health. It is also recommended that interventions on gynecological morbidity, RTI and STI target men by providing information about women's gynecological health and their own susceptibility through sexual transmission. For example, in this study setting, it is recommended that the male health workers and staff of SARTHI are trained to understand both male and female reproductive health in order to enable them to disseminate such information to the male members of the communities they work in. Research is needed on men's perceptions of their own and wives' symptoms, their lay consultation networks, and treatment-seeking behaviors for STI to complement the findings of this paper.

And lastly, the findings of this paper highlight the need to further explore both women's choice of providers for treatment and the quality of treatment received for gynecological morbidity. The role of the private health care sector in RTI, STI management and increasingly HIV/AIDS has been grossly under-emphasized so far. Whereas, this study along with several others point to the fact that women and men approach private providers for STI, RTI and HIV/AIDS services (Rani and Bonu, 2003; Jejeebhoy and Koenig, 2003). This aspect needs to be explored further to understand types of private providers from whom treatment is sought, what kind of treatment is received, and what additional barriers women face in accessing qualified providers in both the private and public sectors. This study has not addressed questions related to type of provider choice and quality of care for STI symptoms. However, this is an increasingly important area for future research, as preliminary evidence from India suggests poor quality of care, incomplete diagnosis, dangerous patterns of drug prescription, and poor communication about usage and prevention by STI providers in both private and public sectors (Greenhalgh, 1987, Nichter and Vuckovic, 1994, FHI, 2001).

Conclusion

The results of this paper provide additional insights to the growing body of literature on what enables Indian women to seek health care, especially for gynecological, RTI and STI symptoms. The role of empowerment in influencing treatment-seeking behavior is demonstrated empirically, as more than a rhetorical

argument on the need for addressing women's status. In deconstructing empowerment into its components, this paper specifies mechanisms by which empowerment influences women's health seeking. This represents a distinct advantage over studies where different measures have been combined as a composite score of empowerment. The urgent health needs of poor women in rural India require multiple strategies that address their systematic marginalization from economic, political, and social institutions. The strength of this paper is in its contribution to specifying how empowerment can enable women to achieve better health.

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Ethical review

The study was approved by the Committee on Human Research at the Johns Hopkins University, Bloomberg School of Hygiene and Public Health. It was also approved by a local ethics board consisting of members of the Women's Health Resource Centre (WHOTRAC) based at M.S. University in Vadodara, Gujarat, India.

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