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Violence, Intimacy, and Vulnerability:
Marriage and the Risk of HIV Infection Among Women in South India

by

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B. A. (Swarthmore College) 1995

B. A. (University of Oxford) 1998

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Spring 2000

**Violence, Intimacy, and Vulnerability:
Marriage and the Risk of HIV Infection Among Women in South India**

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by

Rajesh Vedanthan

Table of Contents

List of Figures	ii
List of Tables	iii
Acknowledgments	iv
Introduction: Setting the Scene	1
Chapter 1: Epidemiology of HIV Infection in India	10
Chapter 2: Patriarchy, Sexuality, and Violence Against Women in India	15
Chapter 3: Critical Review of the Literature on Violence and HIV Risk	30
Chapter 4: Categories, Identities, Power, and Epidemiology	53
Chapter 5: Methods	72
Chapter 6: Results	81
Chapter 7: Discussion	110
Chapter 8: Concluding Thoughts	132
Figures	136
Tables	139
Appendix 1: Maps of India and Tamil Nadu	162
Appendix 2: Semi-structured Interview Questions	164
Appendix 3: Informational Statement/Oral Consent	165
Appendix 4: Data Collection Form	166
Appendix 5: Caste Categories	177
References	178

List of Figures

Figure 3.1: Relationship among the studies retrieved for critical review	136
Figure 6.1: Association between condom use variables	137
Figure 6.2: Percent agreement calculation	138

List of Tables

Table 3.1: Summary of studies included in critical review	139
Table 3.2: Evaluation of studies included in critical review	141
Table 3.3: A closer look at Wingood et al. (1998: p. 81, Table 2)	143
Table 5.1: Sample size estimate output from Epi Info 6.0	144
Table 6.1: Socio-demographic profile of the study sample	145
Table 6.2: Characteristics associated with marriage	146
Table 6.3: Summary of men's and women's gender-related attitudes	147
Table 6.4: Sexual relations within marriage	148
Table 6.5: Condom use within marriage	149
Table 6.6: Summary of domestic violence prevalence	150
Table 6.7: Association between physical violence and other forms of violence	151
Table 6.8: Socio-demographic marital factors and physical violence	152
Table 6.9: Relationship of domestic violence and sex within marriage	153
Table 6.10: Bivariate analysis of men's reports of wife abuse	154
Table 6.11: Men's reports of wife abuse and men's sexual behavior	155
Table 6.12: Calculation of average "percent agreement"	156
Table 6.13: Sero-concordance/sero-discordance status of the couples	157
Table 6.14: Socio-demographic characteristics and women's HIV status	158
Table 6.15: Sexual behavior and women's HIV status	159
Table 6.16: Domestic violence and women's HIV status	160
Table 6.17: Stratified analysis of the physical violence-HIV relationship	161

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Introduction: Setting the Scene

With an estimated 4 million people living with human immunodeficiency virus (HIV) infection, India is the country with the largest number of HIV cases worldwide (1). Although most research studies and HIV reporting systems have been established in urban areas among “high-risk” individuals such as commercial sex workers and sexually transmitted disease (STD) clinic patients, there is mounting evidence that traditional “low-risk” groups such as rural populations (2) and monogamous married women (3) are becoming increasingly at risk for contracting HIV infection. Thus, at least one commentator has drawn a parallel between India and sub-Saharan Africa in the early phase of its epidemic, when HIV infection began to spread beyond the confines of high-risk groups into the general population, primarily through heterosexual transmission (4).

The spread of HIV infection into the general population requires an interface between the “high-risk groups” and the “low-risk groups.” In the context of an epidemic dominated by heterosexual transmission of HIV, the interface involves individuals practicing high-risk behaviors who have sex with individuals who seemingly are not engaged in high-risk behaviors. There are historical, cultural, and epidemiological reasons to believe that, in India, that interface occurs between men who engage in high-risk sexual behaviors (multiple-partner sex, sex with commercial sex workers) and their wives who are at apparently low risk (married and monogamous). This thesis is primarily concerned with the dynamic of that interface, as it unfolds within the context of marriage.

Marital relations are a complex mix of intimacy, power, violence, passion, conflict, and support. How may power differentials between men and women within

marriage be related to women's vulnerability to HIV infection? This was the overarching question that framed the approach to this thesis. Power relations can assume many forms in society. Gender-based violence is a particularly disturbing manifestation of the unequal power relations between men and women. In addition to the direct negative impact that it has on health outcomes, gender-based violence reflects power inequalities at two levels: 1) between individual men and women, and 2) between men and women in society at large. Guided by the overall objective to explore the conditions within marriage that could increase a woman's vulnerability to HIV infection, I was particularly interested in evaluating the plausibility of the hypothesis that violence within marriage increases a woman's risk for HIV infection.

In this thesis, "vulnerability" is used to refer to "social vulnerability" and not to the notion of "biological vulnerability." Biological vulnerability to the sexual transmission of HIV infection has been studied quite extensively by others, who have determined that it is influenced by STDs (5, 6), frequency of sexual contact (7, 8), use or nonuse of condoms (9), genital ulcers (10), immunologic status of the HIV-infected partner (11), and viral load of the HIV-infected partner (12). In contrast, social vulnerability refers to social, economic, political, and interpersonal power inequalities that constrain an individual's ability to control his/her body, negotiate safe sex, exert influence over the terms of sex, and treat oneself for health problems such as STDs (13, 14). Some of the factors that may increase social vulnerability to HIV infection include gender (14-16), poverty (14-16), violence (17, 18), race (14-16), and caste (19).

Situating my Subject-Position

At this point, I would like to situate my subject-position, in order to explore at least briefly my own motivations and interests in writing this thesis. For the past three years, I have been actively involved with the Swasthya Community Health Partnership, a community-based women's health promotion project based in Sringeri, a rural village in Karnataka, south India (20). During the course of our work, we have been involved in the follow-up care of several women and girls who are victims of domestic violence and childhood sexual abuse. We have observed, in particular, that several aspects of women's reproductive and sexual health are related to this gender-based violence. For instance, one teenage girl reported being sexually abused by her father, and this sexual abuse had implications for her future marriage and childbearing prospects (20). Since domestic violence and childhood sexual abuse are associated with many long-term sequelae (21, 22), I hypothesized that victims of domestic violence may be at greater risk for becoming infected with HIV or other STDs.

In the course of searching for a suitable location to conduct this study, I formed a collaboration with the Y. R. Gaitonde Center for AIDS Research and Education (YRGCARE). YRGCARE is a non-governmental organization (NGO) in Chennai, south India, that has programs for voluntary HIV testing and counseling, care for HIV/AIDS (acquired immunodeficiency syndrome) patients, and HIV/AIDS research (2). Under their institutional infrastructure, I was able to conduct this study to determine if there is, in fact, an association between marital factors (such as domestic violence) and risk of HIV infection among married women in south India. It was my hope that the lessons I

learned from this thesis would be applicable to the programmatic activities of YRGCARE, Swasthya, and other NGOs with whom I was working in south India.

Power, Vulnerability, Violence, and HIV

The global HIV epidemic has demonstrated that power and vulnerability are intimately related to the risk of HIV infection. Worldwide, disempowered individuals are more vulnerable to HIV infection and its sequelae (15, 16, 23). Approximately 95% of individuals with prevalent HIV infection or AIDS reside in what is termed the “developing world” (24). In sub-Saharan Africa, more women than men are infected with HIV (24). In India, the proportion of HIV-infected individuals who are women has been increasing steadily over time (25).

Gender-based violence has been defined as “harmful behaviours that are directed at women and girls because of their sex” (26, p. 1165). Included within this definition are such diverse behaviors as wife abuse, sexual assault, dowry-related murder, rape, selective malnourishment of female children, forced prostitution, female genital mutilation, sexual abuse of female children, female infanticide, and sex-selective abortion (22, 26). Since gender-based violence is intimately intertwined with sexuality, fidelity, pregnancy, and childbearing, it has been argued that gender-based violence may be associated with an increased vulnerability to HIV infection (22, 27). Critical examination of the logic of HIV/AIDS prevention programs provides a particularly illustrative example of the way in which gender-based violence can increase a woman’s vulnerability to HIV infection. Existing HIV/AIDS prevention efforts that attempt to reduce the sexual transmission of HIV focus primarily on sexual behavior modification. The behavioral recommendations espoused by these HIV/AIDS prevention programs include abstinence,

condom use, mutual monogamy, partner reduction, and the avoidance of high-risk sexual practices. Effective communication and sexual negotiation between sexual partners are critical to the success of these strategies (28). Successful negotiation, in turn, presupposes bargaining power on the part of both individuals. However, gender relations are characterized by power inequalities. In the context of a violent relationship, in particular, a woman may have even less sexual decision-making power. For example, a woman may not feel as if she has the power to make men wear condoms, or may fear further abuse if she raises the issue of condom use (29). Thus, a history of violent experiences or the current threat of violence may create significant barriers to practicing risk-reducing behaviors. This reduced capacity to decrease risk behaviors, in turn, could place these vulnerable individuals at greater risk for HIV infection.

Public Health Implications

If a relationship does exist between gender-based violence and the risk of HIV infection for married women, there could be profound implications for AIDS prevention programs. AIDS prevention programs based on behavioral interventions would have to take into account the impact of violence on the ability of individuals to engage in risk-reducing behavior. Furthermore, such a finding would lend support to the conceptual framework that posits that relational factors *between* individuals in intimate relationships affect an individual's ability to adopt and maintain HIV-preventive behaviors (30).

In addition, a link between violence and HIV risk would add to the growing body of evidence supporting the research and development of female-controlled technology to prevent HIV transmission, such as vaginal microbicides, diaphragms, cervical cap devices, and female condoms (31).

In another related development, researchers and activists alike are increasingly acknowledging and examining the pivotal role that men play in influencing the conditions that affect women's health. In fact, strategies to investigate more rigorously the vulnerability of women as a result of men's behaviors, promote "male responsibility for women's health," and ensure the involvement of men in public health programs (for example, AIDS prevention) have been recommended in order to address this issue (18, 20, 32-38). The importance of this issue is highlighted by the fact that the Joint United Nations Programme on HIV/AIDS has prioritized the involvement of men in its 2000 World AIDS Campaign (18).

Finally, research on this issue would have important implications for health policy as well. Governments may want to become more rigorous in their activities to prevent gender-based violence, as an adjunct to their existing violence and HIV/AIDS policies. Furthermore, governments may choose to increase their budgetary allocation towards the research, development, and distribution of female-controlled methods of HIV prevention.

The Situation in India: The Need for a New Approach to AIDS Prevention

Clearly, in order to stem the tide of infection from spreading into low-risk groups such as married monogamous women, it is necessary to develop targeted, effective, and appropriate prevention programs that take into account the dynamics of heterosexual transmission of HIV in India. Arguably, past models and activities in India have failed: despite widespread HIV/AIDS education and awareness programs, as well as condom distribution programs, reported condom use is very low (between 2% and 8%) and HIV seroprevalence among women is increasing (2, 39). Thus, new approaches and new outlooks are needed to revitalize AIDS prevention programs in India. Indeed, issues such

as condom use, safe sex, negotiation of condom use, and sexual communication, are not merely individual-level variables, but are contingent upon the nature of relationships *between* men and women. Therefore, one component of these new approaches arguably should include a more refined understanding of gender dynamics and power relations between men and women within marriage, and their relationship to HIV risk factors.

As Mane and Maitra state, "It would be ridiculous to plan interventions that expect Indian women to play an active role in condom usage, changing the sexual patterns of men, advocating monogamous relationships, as these are not keeping with their current status" (40, p. 67). Instead, interventions should focus on the sources of the power differentials between men and women from which arises women's particular vulnerability to HIV infection. These power differentials manifest in myriad forms: fertility pressures on women to have more *male* children, periods of "forced abstinence" between husband and wife during which time men tend to seek sex outside the home while women are generally forbidden from extramarital sexual relations, lack of knowledge (and therefore control) of their bodies (reproductive anatomy and physiology), and violence against women (40-42).

These factors not only increase a woman's vulnerability to HIV infection, but they also have very important implications for AIDS prevention programs. Specifically, AIDS prevention efforts that do not take into consideration power relations and gender dynamics are doomed to fail. In this light, mass condom distribution programs alone—without a concomitant engagement at the community level to address power differentials between men and women that have a bearing on the effectiveness of condom negotiation—appear to be of questionable value. In fact, the government realizes that, in

spite of programs that freely distribute massive numbers of condoms, about 50% of those condoms are never used (43). In contrast, AIDS prevention programs grounded in a conceptual, theoretical, and empirical foundation informed by studies of power relations and gender dynamics may be more successful in slowing the spread of the HIV epidemic into the population of apparently “low-risk,” married, monogamous women.

Objectives of the Thesis

As stated above, the overall objective of the thesis is to explore the conditions within marriage that could increase a woman’s vulnerability to HIV infection in south India. In particular, I am interested in evaluating the plausibility of the hypothesis that violence within marriage increases a woman’s risk for HIV infection. Previous epidemiological studies have addressed this question by examining either women’s (44-46) or men’s (47) perspectives on these various issues. In contrast, this thesis analyzes both the male and the female perspectives on marital relations, sexual behavior, sexual communication, violence in the home, and HIV risk.

In addition to the overall objective, the following specific objectives have guided my research, analysis, and inquiry: 1) gain a more refined understanding of the socio-cultural contexts in which conflicts and violence may arise; 2) explore men’s and women’s notions of sexuality, gender dynamics, and power relations; 3) achieve a more refined understanding of how domestic violence is perceived in south India—what constitutes violence, why does it occur, is it a problem; and 4) examine plausible pathways by which domestic violence may increase a woman’s vulnerability to HIV infection.

The overall structure of the thesis is a cross-sectional epidemiological study. Within that structure, I have attempted to collect some qualitative data, in order to provide a more fleshed-out context for the quantitative information. Married men and women who were seeking HIV testing and counseling services at YRGCARE were recruited into the study and interviewed during the pre-test counseling visit. Analysis of their responses served to fulfil the objectives listed above.

Organization of the Thesis

The organization of the thesis proceeds as follows. Chapter 1 provides a brief review of the epidemiology of HIV infection in India, with a special focus on HIV infection among women. Chapter 2 explores the intersections of power, patriarchy, sexuality, and violence in India, in order to provide a context for the discussion of the relationship between violence and HIV infection. Chapter 3 is a critical review of the existing literature that examines the putative link between gender-based violence and HIV risk. Chapter 4 critically examines some theoretical dilemmas related to the use of epidemiology for the study of women in India. Chapter 5 outlines the methodology for the study. Chapter 6 presents the qualitative and quantitative results from the study. Chapter 7 is a discussion of the results. Chapter 8 provides some concluding thoughts and reflections.

Chapter 1: Epidemiology of HIV Infection in India

The first case of HIV infection in India was detected in 1986, although it is suspected that HIV had entered India before 1984 (48, 49). Following a brief letter to *The Lancet* that localized the early epidemic to female commercial sex workers (CSWs) and sexually transmitted disease (STD) clinic clients (50), the initial surveillance studies were conducted among these two “high-risk groups.” Studies in various populations of these “high-risk” groups documented a very rapid rise in the prevalence of HIV. In the southern Indian city of Vellore, the HIV-1 seroprevalence among CSWs increased from 1.8% in 1986 to 28.6% in 1990 (48). Likewise, in the metropolis of Mumbai, HIV seroprevalence among CSWs surged from 1% in 1987 to over 40% in 1992 (49). A sentinel surveillance study conducted in Tamil Nadu between 1989 and 1993 reported an increase in HIV seropositivity among STD clinic clients from 1% to 10% during this time period (51). In Mumbai, the HIV seroprevalence among STD clinic patients rose from 0.83% to 26% between 1987 and 1992. Thus, the surveillance program that was confined to these “high-risk” groups during the initial phase of the HIV epidemic in India indicated that HIV seroprevalence increased sharply among the “high-risk” groups during this time (4).

At about the same time, blood supplies were found to be contaminated with HIV, which caused great concern (4). Studies of paid or “professional” blood donors revealed HIV seroprevalence levels of between 0.3% (52) and 75% (53). In addition, HIV infection spread rapidly among the intravenous drug users of the northeastern state of Manipur, from zero detected infections in 1986-1988 to 65% reported seroprevalence in 1990 (4, 49).

During this time period, the seroprevalence of HIV infection in the “general population” was quite low compared to the “high-risk” groups. One subpopulation that has traditionally been used as a proxy for the “general population” is pregnant women. Between 1987 and 1992, one study reported an average HIV seroprevalence of 0.054% among women attending an antenatal clinic in Vellore, Tamil Nadu (54). The exact figures for this state are not well established, however, since a sentinel surveillance study conducted among government hospitals in Tamil Nadu reported that the seroprevalence of HIV increased from 0.37% to 0.76% among women attending antenatal clinics between 1989 and 1993 (51). The discrepant findings from these initial studies give some indication of the wide variability in the HIV prevalence levels that have been estimated by various institutions (governmental and non-governmental) over the past 15 years across the entire country.

During the early- to mid-1990's, most epidemiological studies of sexual transmission of HIV in India were conducted among STD clinic clients in different parts of the country (39, 55-59). These and other studies indicated that the HIV epidemic exhibited substantial regional differences, with quite high HIV seroprevalence levels in Maharashtra (55, 56, 58) and Tamil Nadu (51), and relatively lower seroprevalence levels in Delhi (57, 59). These early epidemiological studies concluded that the primary risk factors for HIV infection were: working as a commercial sex worker, sexual contact with a commercial sex worker, working as a truck driver, young age at first sexual exposure, and being a migrant laborer (39, 56, 60, 61).

In addition, these early studies did report some troubling statistics indicating that the HIV epidemic was increasingly affecting the general population over time. Some of

the studies interpreted “housewife” as equivalent to “low-risk” and indicative of the general population, and surmised that high seroprevalence levels among this population (approximately 4%) (2), or a majority of HIV-infected women being housewives (39), were particularly troublesome findings. Other studies conducted among STD clinic patients equated “non-commercial sex worker” or “one lifetime sexual partner” with a “low-risk” female population, and interpreted HIV seroprevalence and incidence levels of 12.7% and 8% per year (lower bound of 95% confidence interval), respectively, among women of these categories as cause for concern (55, 56). Yet, other studies used “pregnant women” or “antenatal clinic attenders” as proxies for the “general population,” and interpreted either absolute HIV seroprevalence levels of 0.054% (54), or increases in seroprevalence over time (from 0.37% to 0.76% between 1990 and 1993) (51), as disturbing trends. Finally, one study conducted among women attending a gynecological clinic for either suspected pelvic inflammatory disease, suspected infertility, or laparoscopic tubal ligation, found that the HIV seroprevalence was 1.9%, a level that the authors did not consider particularly high but worth monitoring closely nevertheless (62). At least one commentator drew a parallel between India and sub-Saharan Africa, where a rapid rise in HIV seroprevalence among “high-risk” groups was followed by a spread of the virus to the “general population” (4).

In spite of these early whisperings, it was only when one published study focused exclusively on “married monogamous women” (3) that the Indian and international communities took a more serious look at the potential for the HIV epidemic to spread into the general population in India and affect women who mistakenly (yet naturally) perceived themselves to be at low or no risk. In this study, which was conducted at an

STD clinic in Pune, the HIV seroprevalence level among women who were not “female sex workers” (non-FSWs) was found to be 13.6%. In both univariate and multivariate analyses, the only variable statistically significantly associated with HIV infection in non-FSWs, 92% of whom reported only one lifetime sexual partner, was sexual contact with a partner with an STD. The authors of this study assumed that the non-FSWs in the study could be representative of “a larger general population of married, lower-income, peri-urban women whose husbands have multiple partners” (3, p. 2092). Thus, they concluded that this group of women, previously thought to be at low risk of HIV infection in India, was becoming increasingly at risk to such an extent that strengthening HIV/AIDS prevention programs and re-directing efforts towards the general population was warranted.

After the publication of this study, several other studies focused more specifically on “married monogamous women.” One study, conducted at YRGCARE among steady partners of HIV-positive patients, found that the HIV sero-concordance level was 66% (63). More than 95% of women whose husbands were HIV-positive reported that sex with their husbands was their only risk factor for contracting HIV. In this study, none of the sero-discordant couples reported condom use on a regular basis or abstinence from sexual activity, thus highlighting the risk for future transmission of HIV to those women. Yet another study conducted at YRGCARE among HIV-infected women found that 88% of the women reported a history of monogamy and 89% reported heterosexual sex as their only risk factor for contracting HIV (64). These authors concluded that notions of risk might need to be redefined to include “married, monogamous women.”

It is not terribly surprising that a substantial proportion of HIV-infected women are married, given that marriage is nearly universal among women in India. According to a recent National Family Health Survey conducted in 1992-93, 82% and 98% of women in India aged 20-24 years and 30-34 years, respectively, were married, widowed, divorced or separated (65). If nearly all women in India are married, then of course nearly all HIV-positive women will also be married. In the hypothetical universe of married couples in which the husband is HIV-positive, some married women become infected with HIV while others do not. The critical issue, therefore, is what increases women's vulnerability to HIV infection *within the context of marriage* (32)?

My hypothesis is that gender-based violence may increase a woman's vulnerability to HIV infection, by constraining her ability to engage in risk-reducing behaviors. This study was conducted in order to shed light on the plausibility of that hypothetical scenario.

Chapter 2: Patriarchy, Sexuality, and Violence Against Women in India

*Women die many kinds of deaths;
men do not know this.*

*For them, when a woman cooks
and arranges flowers in her hair
and makes place in the bed
she is alive.*

*But a woman can smile,
she can pin flowers in her hair
and arrange a red dot on her forehead
and make place in the bed
because her husband is alive.*

*She
may be dead.*

- Poile Sengupta, "Mangalam,"

Body Blows: Women, Violence and Survival (66)

As Sengupta so vividly describes, violence against women may assume subtle, insidious, and invisible forms. In addition to the tragic and traumatic instances of rape, wife battering, and bride burning, violence also has a silent, pervasive form that rears its head in apparently quotidian situations: the preparation of food, a woman walking down the street, unequal monetary compensation for men's and women's work, sex between a husband and a wife. The woman's body is the site of such violence, exclusion, and

abuse; at the same time, the woman's body is also the site for agency, which facilitates negotiation, contestation, and transformation (67). Central to the female experience of "embodiment" of violence and agency is the nature of power and gender relations in society. In this chapter, I wish to explore in more depth the nature of the power inequality between men and women in Indian society, and to note its relationship to violence and sexuality. In the process, I hope to provide a more fleshed-out context for the discussion of the proposed connection between violence and risk of HIV infection for women in south India.

Patriarchy and the Control of Women's Sexuality

Patriarchy can be usefully defined as "a distinct system of control men have over women's labour, fertility, sexuality and mobility in the family, workplace and society in general" (68, p. 89). Patriarchy operates at both the material and ideological levels. It manifests, situates, and reproduces itself in such diverse social institutions and structures as the family, the school, the workplace, and the political arena, among others.

Patriarchy is, indeed, about *systemic* power inequality between men and women. Given that a complete discussion of patriarchy in all of its various manifestations in Indian society is beyond the scope of this chapter, I will limit my discussion to the patriarchal control of women's sexuality and its relationship to violence against women in India.

What are the sources of patriarchy, or the unequal power relations between men and women, in Indian society? Marx's theory of class stratification and struggle, based on differential ownership of the means of production, has provided the foundation for many of the 20th-century theories of oppression and subordination, be they of class, gender, or race. However, in the past three decades, the limitations of Marxist theories

for understanding the subordination of women have grown more apparent, since they “do not and could not address directly the gender of the exploiters and those whose labour is appropriated” (69, p. 8). Specific to the Indian context, theorists and activists alike have realized the need to confront directly the question of patriarchy and gender, the nature of which is grounded in the non-materialist spheres of life, such as the cultural, religious, and psychological domains of Indian society (70).

How then to move beyond the limitations and shortcomings of the purely reductionist Marxist approach? How are sexuality and violence understood vis-à-vis patriarchy? Viswanath delineates two broad frameworks that have informed approaches to these questions: the anthropological approach, and the feminist approach derived from the Indian women’s movement (71). The anthropological approach has focused on the female body and female sexuality as they are situated within the symbolic systems of Indian culture and society. For instance, Wadley argues that one source of the Indian woman’s subservient position lies in the ideology of Hinduism and its impacts on women’s secular roles, behavior, and status (72). Religious texts inform myths and folk beliefs which, in turn, reinforce and support secular gender roles and relations. In the Hindu pantheon, the benevolent goddesses are those who have transferred control over their sexuality and power to their husbands. This feminine ideal is apparent in several Hindu myths and has very real manifestations in Indian society, such as the expectation that a woman will subordinate her power and will to that of her husband. Thus, the patriarchal system that reigns over much of India owes much to the vestiges of Hindu ideology. One should note that this framework posits the notion of an “ambivalent persona” of the Indian woman: she is potentially at once both goddess and dangerous

power, virtuous and dangerous evil, pure and impure. Female sexuality is viewed as wild, uncontrolled, insatiable, and dangerous, and the Indian woman is to be controlled through a direct regulation of that sexuality (71).

This anthropological approach is persuasive and appealing in its elegance and rationale. In fact, it has informed some of my own earlier writings (73). However, as Viswanath points out, these are male discourses. While women's bodies and their sexuality are central to this discourse, they have not been the subjects of it. As such, the anthropological approach has not connected the symbolic and ideological representation with women's lived experiences and women's own understanding of their sexuality. In contrast, the Indian women's movement has inspired a specifically Indian form of feminist scholarship on the intersections of patriarchy, violence, and sexuality, that derives first and foremost from women's experiences and their struggles for liberation.

In the past two decades, the women's movement in India has clearly shown that violence against women is both a manifestation of, and a contributor to, power inequality between men and women, at both the societal and interpersonal levels. Two activists who have been intimately involved in the women's movement argue that "[t]he women's movement has no 'beginning' or origin," (68, p. 15); however, they go on to also describe three somewhat distinct phases of the Indian women's movement since the 1800s. Since the late 1970s, from what has alternatively been referred to as the "third phase" (68) or the "new" (70) or the "contemporary" (74) Indian women's movement, a distinct theory of violence and patriarchy has arisen. Viswanath argues that the women's movement has demonstrated that sexual violence against women is linked to women's experience of shame, and that this experience of shame is imposed on women as a form of repressive

patriarchal power (71). This repressive power effectively controls women's sexuality, limits their sexual expression, and restricts their freedom. Sexual violence, therefore, is central to the power inequality between men and women. Women are seen as sexually vulnerable, and this vulnerability intersects with other social structures (for instance, caste and class) to create specific experiences of subordination within a larger social schema of women's oppression.

At the same time, other activists and scholars have taken note of the influence that the ubiquitous caste system (or caste ideology, according to one researcher (75)) has exerted on the control of women's sexuality in Indian society. The caste system as a form of social organization can be crudely described as a hierarchical social grading based on the division of labor. Caste ideology, which accompanies the hierarchical social divisions, is rooted, in part, in concepts of purity and impurity, and these concepts are manifested in a variety of social structures: daily cleansing rituals, caste-specific occupations, preparation of food, and norms regarding marriage and sexuality (76). Potential sources of "pollution" include touching, eating, and sexual intercourse (75). In a crucial and arguably cruel demonstration of sexual asymmetry, women are viewed as more susceptible to the "polluting" aspects of sexual intercourse than men (75, 77). Thus, the control of women's sexuality is seen as central to the supposed goal of maintaining caste "purity" (75, 77, 78). Some social institutions that effectively control women's sexuality include: child marriage, dowry system, widow seclusion, and prohibition of widow remarriage (75). As Srinivas states, "The principles of caste inform the nature of sexual asymmetry in Hindu society, and hierarchies of caste are articulated by gender" (76, p. xi). In fact, several feminists and leaders of the Indian women's

movement have long held the view that the oppression of certain castes and the oppression of women were tightly linked, and that it was necessary for them to mutually support each other's struggles (74).

While Indian feminists have viewed sexual violence, shame, and casteism as forms of repressive power, a Foucauldian interpretation would posit that power is a productive discourse. In this view, power functions through relationships and through practices/experiences. With respect to the Indian woman, shame and power would be seen to permeate the social body and to control women's movements and sexuality from various points (one of those points being the internalization of institutions, ideals, and practices by individual women themselves). At the same time, women enjoy certain sites of power, and have different, unique experiences of patriarchy. For instance, the phenomenon of violence by extended family members, especially mothers-in-law, necessarily complicates the purely repressive model of patriarchy and gender relations (79). Within this discursive field, there are "points of rupture" that allow for resistance and struggle for liberation. Thus, the victories of the women's movement—in the social, legal, and political arenas (74)—could be seen as emerging from such points of rupture. At a more micro-level, George argues that gender relations within marriage are subject to constant contestation, negotiation, and shifting power balances (80). For example, contestation and protest can take the form of rejection of widowhood penance by Brahmin women (75); desertion of their husbands and assertion of their rights by Adidraida (Harijan) women (75); or, somewhat paradoxically, sexual restraint (81).

In summary, the control of women's sexuality is one of the primary manifestations of patriarchy in Indian society. Various scholars and activists have

highlighted the importance of Hindu cultural ideology, sexual violence and shame, and caste ideology, in determining the constructs and structures within which women's sexuality is controlled in India. I feel that a broader perspective that incorporates all of these factors, and that draws upon the "Foucauldian" notion of the productive nature of power, is ultimately more helpful in developing an analysis of power relations between men and women—one that acknowledges the systemic and pervasive power inequalities between men and women, while at the same time creating space for contestation, protest, and negotiation.

Embodiment, Sexuality, and Violence

Returning to the woman's body—as the site of women's experiences of subordination and resistance, violence and sexuality, identity and agency—allows us to explore engendered power relations in a bit more depth. I would like to proceed in this fashion, with an eye towards describing the various forms of violence that women experience in Indian society, and how these are related to power inequalities between men and women.

Gandhi and Shah call wife beating "the invisible violence," its invisibility deriving from many sources: the relationship between husband and wife, involving the complexities of intimacy, romanticism, sexuality, and patriarchy; the "private" nature of the violence, usually occurring within the confines of the house and the marital relationship; the acceptance of the violence on the part of the larger society and the women victims themselves; and the lack of social recognition or social response (68, pp. 61-62). All this despite the fact that the beating, at the most crude level, is inflicted on the external surface of the body—the bruises, scars, and deformities of which are evident

to all. In addition to being invisible, wife beating is widely pervasive, to such an extent that it has been described as “symptomatic of the sexuality of everyday life” (82, p. 304). In trying to understand the phenomenon and interpretation of wife beating, Geetha hypothesizes that male authority (and violence) is re-defined as a display of concern, pleasure, and affection. Such “naturalization of authority” has two effects: 1) men hurt women with license; and 2) women remain “submissive” and “accepting” of the violence (82). This is largely borne out by empirical studies. For instance, a recent study conducted in Uttar Pradesh (north India) and Tamil Nadu (south India) noted that a majority of women viewed wife beating as not only acceptable, but also justifiable and a “right” form of behavior in certain situations. Moreover, in Uttar Pradesh, women were likely to justify wife beating as an expression of the husband’s affection (83).

In addition to domestic violence, rape has been a major focus of the contemporary Indian women’s movement. Throughout the women’s movement, high-profile cases involving policemen and army officers—such as the rape of Mathura, a tribal woman, by two policemen (1979); the gang rape of Rameezabee in Hyderabad (1978); and the mass rapes by the army in Nagaland (1970s)—have stimulated women’s groups, the press, and other institutions to respond in a public and effective manner. Gang rape involves not only the individual body, but also the “body politic” (84). As Gandhi and Shah point out, “Gang rape has been a time-honoured method of demoralising one’s opponents and crushing protest movements” (68, p. 41). Thus, the women’s movement responded to both the individual’s experience of violation and terror, as well as the collective experience of being branded as vulnerable, inferior, powerless, and disadvantaged.

In addition to the physical and sexual violence described above, women in India suffer from psychological and emotional forms of violence that do not leave an imprint on the body but effectively reproduce and reinforce power inequalities between men and women. The *threat* of physical or sexual violence, while not inflicting bodily harm, is one such form of psychological violence. Gandhi and Shah recount an incident in which they were chased down a deserted road in the late evening by a group of men. After cornering the two women, the men “laughed, wagged their fingers at us as if reprimanding children and said, ‘you should not be so rude, we only want to be friends’” (68, p. 49). Another form of psychological violence is called “eve teasing,” which refers to situations when men tease women by such behaviors as making passing remarks that are sexually suggestive, singing lyrics from love songs to women as they pass by, touching parts of women’s bodies (such as breasts, waists, or genitalia) in violating ways, “jokingly” obstructing a woman’s path, and standing or sitting unnecessarily close to a woman. These examples of sexual harassment and eve teasing create an “environment of fear” and effectively transmogrify into “psychological rape”: women experience self-doubt, frustration, powerlessness, fear, and defenselessness. Indeed, sexual harassment, intimidation, eve teasing, and threats of violence are expressions of male power (68, 85).

In contrast to the explicitly vulgar violation of a woman’s autonomy embodied in rape (or psychological rape), the *denial* of sexuality is also a form of violence and of controlling women’s sexuality. Thapan describes the case of a woman whose husband controlled the terms of sex within marriage: how much, when, and how (86). The husband very rarely was interested in sex with the woman, in spite of her desire for a more sexual relationship. By denying her something that she considered central to their

relationship, this man was exerting his power over her in the realm of sexuality and intimacy. The woman experienced this as psychological and emotional violence.

Suspicion, possessiveness, and jealousy are inter-related forms of psychological violence that are, ultimately, expressions of power. Geetha (82) offers the following psychoanalysis: a man who fears his wife's independence and sense of self-identity—in other words, who is unable to “possess” her entirely—resorts to a battery of strategies aimed at re-affirming his sense of “possession.” These include accusations of her infidelity and questioning her “honor,” which, while allowing him to master his anxieties regarding her independence, also serve to heighten his suspicion of her. His paranoia and jealousy may cause him to lock her up, force her to have sex with him, or isolate her from her children. The woman, meanwhile, suffers guilt, self-denial, self-loathing, and dissociation. She may, in fact, “actively [rework] his suspicion into the terms of their conjugal relationship to the extent that she eroticises it” (82, p. 312). Ultimately, male suspicion and possessiveness—and the active internalization of this violence by women—marks the female body as a “topos on which patriarchal structures may map their vicious logic of domination” (82, p. 315).

Finally, I would like to discuss the violence related to images of women and representations of the female body. As Thapan explains, the visual and print media in almost every society create images of the “ideal femininity,” whether that be defined in terms of “ideal female body,” “ideal female mannerisms,” or “ideal female sexuality” (86). The internalization of representations of the “ideal femininity” is intimately linked to the formation of feminine identity and sense of well-being. Thapan describes the case of a woman whose husband makes derogatory comments about her body (she's not

attractive, is short, has a big head, is fat) (86). She expresses her experience of these criticisms as “mental torture” and “emotional violence.” Degrading comments about her body effectively split her womanhood into a body and a mind, and focus almost exclusively on the externally visible physical body. In the final analysis, her identity becomes defined by her body. In the attempt to live up to a representation of the “ideal female body” or “ideal femininity,” this woman’s identity becomes fragmented and devalued. Thus, the pursuit of the “ideal femininity”—whether in the form of eating disorders, sexual objectification, or anxiety about sexual desirability—effectively leads to the “negation of a woman’s integrity and personhood,” which is the hallmark of violence against women (87, p. 149).

The preceding discussion has highlighted merely a few of the many different forms of violence that women in India experience. Other forms of violence against women in India include dowry deaths (68, 88), forced sterilization (87), widow immolation (74, 89), female infanticide (90), and sex-selective abortion (91). To do justice to this enormous issue is beyond the scope of the present undertaking. I hope to have provided a brief glimpse into the nature, forms, and dynamics of violence against women in India. With this contextual background, we can now review some empirical studies of violence against women.

Empirical Studies on Violence Against Women

Unfortunately, there is a dearth of systematic, rigorous data on the prevalence of violence against women in India. Official government statistics grossly underestimate the levels of violence, and several scholars and activists have discounted government statistics as unreliable and not too helpful (68, 92, 93). Several activist groups have

published valuable reports that present illuminating case studies and profiles of women seeking services at their organizations (20, 94-96). However, very few studies have investigated the extent of violence at the community or population level. In addition, those few studies have focused almost exclusively on domestic violence within marriage. I will briefly review the results of those studies in this section.

According to one study conducted in a village in Punjab, the overall prevalence of domestic violence (wife beating) was approximately 55%, although there were substantial differences in reporting by caste and gender (97). Among the Scheduled Caste individuals, approximately 75% of both men and women reported that wife beating had occurred. In contrast, among the non-Scheduled Caste individuals, 22% of men reported having inflicted violence on their wives but only 13% of the women reported having experienced violence.

A more recent study from rural Gujarat also noted that there were differences in the levels of violence reported by caste identity (98). While 48% and 57% of the Scheduled Caste and "lower caste" women, respectively, reported having experienced physical abuse, only 17% of "higher caste" women reported domestic violence. One study examined the influence of income level (class) on domestic violence (99). Higher levels of physical assault were reported in the low-income group (58%) than in the high-income group (15%).

Two other studies were conducted among women in rural areas. One study was a large community-based survey, and reported a prevalence of wife beating of 37% in Tamil Nadu and 45% in Uttar Pradesh (83). The other study was a small, in-depth examination of one community in rural Karnataka, and the prevalence of wife beating

was found to be 22% (100). The author felt that this 22% figure was an underestimate, and that his qualitative research in the same community supported a much higher estimate of the extent of domestic violence. Only one study was conducted in an urban area (Chandigarh, the capital of Punjab), where husbands inflicted physical violence on their wives in 34% of the homes (93).

In addition to physical violence, some of the studies examined other forms of violence. In the Chandigarh study, the prevalence levels of psychological and verbal violence were 69% and 71%, respectively (93). Another study noted a difference in the level of intimidation, by region: whereas 59% of women in Uttar Pradesh reported having been intimidated by their husbands, only 36% of women from Tamil Nadu reported intimidation (83). The study from rural Gujarat reported that 23% of women suffered from psychological violence (in the form of abusive language, belittlement, and threats), and that there were no significant differences by caste (98). Finally, one study indicated that “social violence” (demeaning comments, disparagement, belittlement), “emotional violence” (deprivation of love, affection, concern, sympathy, or care), and “intellectual violence” (lack of discussion, even for pressing issues), all increased in frequency as the income level of the household increased (99).

The reported proximate causes or “triggers” for physical violence were disobedience of the wife (improper food, quarrels with the mother-in-law, improper care of children), alcohol intake by the husband, insufficient dowry payments, asking husbands for money, and economic stress (83, 98). The socio-demographic correlates of wife beating included: higher levels of the woman’s education were associated with less domestic violence; higher levels of the husband’s education were also associated with

less domestic violence; younger age at marriage for the women conferred greater risk of violence; increasing parity was associated with higher levels of violence; and a woman's engagement in wage work was associated with greater likelihood of experiencing violence (83, 98).

In summary, the few studies that have been conducted on domestic violence indicate that it is fairly prevalent in Indian society, in both north and south India, and in both rural and urban areas. Prevalence estimates range from approximately 20% to approximately 75%. Caste identity was associated with different levels of reported violence; whether this reflects true differentials in experiences of violence or rather differences in reporting is unclear. One study indicated that discrepancy between men's and women's responses was likely. Other forms of psychological and emotional violence are also quite prevalent, although only a few studies examined those issues. The studies point towards a relatively unexplored area of social and marital life that may have profound impacts on women's health and well-being.

Conclusion

This chapter has provided a small window into the arena of power relations between men and women in Indian society, and the connections to sexuality and violence. Patriarchy in India is a complex weave of religion, symbols, violence, sexuality, caste, and resistance. Violence against women is one of the ways in which these engendered power relations are embodied. The multiple forms of violence—physical, sexual, psychological, and emotional—can be described as creating a “context of violence” within which identities are formed and relationships are developed. With

this backdrop, we can now proceed to examine more closely the putative link between violence and HIV risk.

Chapter 3: Critical Review of the Literature on Violence and HIV Risk

In this chapter, I review the existing literature to evaluate the evidence concerning the relationship between gender-based violence and HIV risk. As discussed above, gender-based violence has been defined as “harmful behaviours that are directed at women and girls because of their sex” (26, p. 1165). This chapter will examine only those forms of gender-based violence that occur during adulthood, because their relationship to the HIV epidemic is probably characterized by very different dynamics than those forms of gender-based violence that occur during childhood. In addition, the adult forms of gender-based violence are most directly connected to marital relations and HIV transmission within marriage. Therefore, childhood sexual abuse, selective malnourishment of female children, female genital mutilation, female infanticide, and sex-selective abortion will not be discussed further.

Methodology of the Critical Review

Data sources

A variety of methods was utilized to identify studies addressing the issue of the association between violence and HIV risk. First, a computerized search was conducted on MEDLINE (1990-2000) using the keywords *violence*, *abuse*, *domestic violence*, *partner abuse*, *sexual violence*, and *HIV*. Computerized searches were also conducted on the Science Citation Index, Social Science Citation Index, Dissertation Abstracts, and Women’s Resources International databases. Second, the reference lists of retrieved articles were scanned for relevant studies. Third, individuals who are “experts” in this field were contacted for further references. Although the search was not limited to articles in English, the only retrieved articles were in English.

Study selection

The types of violence included as exposure variables in the review were rape, sexual coercion, domestic violence, and physical abuse. Measures of HIV risk included HIV infection or HIV risk behaviors (such as unprotected sex, multiple sexual partners, and injection drug use). Studies that analyzed any combination of these exposures and outcomes were included in the review. Only cross-sectional, case-control, and cohort studies were eligible for inclusion; qualitative case histories were retrieved but not included in the final review.

Analysis and presentation

For each study, the following information was assembled: year of publication, study design, study population, exposure variable(s), outcome variable(s), measure of association, confounding factors examined, and limitations. The following criteria were used to rate the studies: was the research question clearly stated (yes/no); was the sampling strategy clear (yes/no); what was the response/participation rate; did the results address the question at hand (score 0 (bad) to 3 (very good)); were confounding variables adequately adjusted for (0 to 3); was an appropriate statistical analysis utilized (0 to 3); were confidence intervals or standard error values included with the numerical results (0 to 3); were tables/graphs/figures clear and useful (0 to 1.5); and did the conclusions follow from the results and the research question (0 to 3).

Results of the Critical Review

Summary of the studies

Fourteen of the retrieved studies examined the relationship between gender-based violence and HIV risk. Figure 3.1 presents a flow chart that pictorially represents the

relationship among these studies. One study was a narrative case analysis (101) and another study utilized qualitative methods (102); these two studies were therefore not included in the review. Another study was only available as a Ph.D. dissertation abstract (103). The remaining eleven studies were all cross-sectional studies, with exposure and outcome data collected contemporaneously. Unfortunately, two studies that collected data on HIV risk and gender-based violence did not perform any analyses to determine a correlation between these two sets of variables (104, 105). These two studies were, thus, non-contributory to the present review.

Of the remaining nine studies, only four studies actually measured HIV infection status as one of the outcome variables (44, 106-108). Two of these studies, in addition to data on HIV infection, collected data on HIV risk behavior as outcome variables (106, 107). In contrast, the other five studies utilized only measures of "HIV risk" as outcome variables (45, 46, 109-111). These HIV risk variables included sexual and drug use behaviors known to be associated with HIV infection, such as anal sex; number of sex partners; inconsistent condom use; injection drug use; and use of shared needles. One of the studies relied on self-reported HIV status as a measure of HIV infection (109). However, it has been demonstrated that self-reported HIV serostatus can be of questionable validity, suggesting that the self-report should not be used alone to estimate seroprevalence (112, 113).

Amongst the nine studies, the exposure variables used included: lifetime history of rape; lifetime history of sexual abuse; marital violence (lifetime and recent); physical abuse; and sexual coercion ("Have you ever had sexual intercourse (anal or vaginal sex) even though you didn't want to because a man threatened to leave you?" (45)). Table 3.1

presents a summary of the studies: their respective study designs, study populations, exposure and outcome variables, measures of association, treatment of confounding factors, and limitations. Table 3.2 lists the studies in descending order of quality, as determined by the scoring scheme described above.

Studies that used HIV serostatus as an outcome measure

Of the four studies that measured HIV infection status as an outcome variable, one of the studies reported neither descriptive results of the HIV tests nor analytic results of HIV status-violence correlations, and was therefore non-contributory in this regard (107). Of the three remaining studies that included useful information about HIV infection status and gender-based violence (44, 106, 108), one reported that HIV-positive women in Rwanda were more likely than HIV-negative women to have experienced sexual coercion (44). A greater proportion of HIV-positive women reported that their partners insisted on having sex when the woman did not want to have sex (43% versus 29%). Although no statistical tests were provided as supporting evidence, calculating the z-test statistic for the comparison of two proportions (114) using the raw data provided in the paper yielded a p-value of less than 0.001.

One of the studies examined the relationship between sexual violence and HIV infection (108). Although the association between rape and HIV infection was not statistically significant (odds ratio = 1.4, reported 90% confidence interval = 0.8, 2.4; calculated 95% confidence interval = 0.7, 2.6), the authors presented results that suggested that HIV status may have been an effect modifier of the relationship between rape in adulthood and various factors related to sexual experiences, reproductive health, and drug/alcohol use (108, p. 308 Table 3) (see also Table 3.1 attached). Although it is

not conventional to examine effect modification by the outcome variable, the authors made a legitimate claim that, because the data were collected in a cross-sectional fashion, it was difficult to formulate a definitive temporal causal relationship between the different variables in their study. Moreover, because their goal was to “describe the extent of sexual victimization among women with HIV infection and women living at high risk for infection, without attributing causal associations” (108, p. 306), they felt justified in proceeding with their analysis stratified by HIV infection status (the putative outcome variable). After stratifying on HIV infection status, they calculated odds ratios relating rape in adulthood with “HIV risk” variables such as unprotected sex under the influence of drugs in the last year (OR = 2.8 for HIV+ vs. 5.7 for HIV-), three or more sexual partners in the last year (OR = 3.4 vs. 1.6), and injected drug use (OR = 2.2 vs. 1.1). There was some evidence of effect modification by HIV status. While it would theoretically be possible to utilize the test of homogeneity to test the hypothesis of effect modification by HIV infection status, the authors reported Mantel-Haenszel estimates of the odds ratios pooled over HIV serostatus *and* history of sex work. Because the Mantel-Haenszel estimates were not pooled over HIV status *alone*, it was not possible in the present instance to utilize the test of homogeneity, nor was it possible to comment on the possibility of HIV status as a confounder of these relationships. Another limitation of this study was the low participation rate. The study enrolled subjects from two different sources, and the participation rate from one of these sources was only 50% (262/520); the participation rate from the second source of subjects was not provided. Thus, caution must be used when drawing conclusions and interpretations based on this study, as the

subjects enrolled in the study may not have been representative of the target population (internal validity).

The third study that provided useful information about HIV status and gender-based violence reported some interesting results (106). They found essentially no relationship between lifetime domestic violence and HIV status. However, recent domestic violence was associated with a *decreased* risk of HIV infection. Although this result was surprising and notable, no mention of it was made in the “Discussion” section of the paper, to my surprise.

Studies that used HIV risk behaviors as outcome variables

Seven studies utilized various “HIV risk” behavioral outcomes as the variables of interest rather than, or in addition to, HIV infection status itself (45, 46, 106, 107, 109-111). Among these seven studies, there was no consistent association between gender-based violence and HIV risk behaviors (Table 3.1).

Five of these studies examined the relationship between sexual violence and HIV risk (45, 107, 109-111). Three studies (45, 109, 111) reported that lifetime history of adult rape or sexual abuse was associated with inconsistent condom use; however, the results of another study found that there was no association between these variables (107). On the other hand, while this latter study reported a significant association between prior adult rape and having multiple sexual partners (107), another study found no such association (45). One study reported a strong association between crack cocaine use and prior sexual coercion, implying that sexual coercion was associated with drug use behavior that is linked to HIV infection risk (45). However, the results of another study showed that there was no significant association between prior sexual abuse and either

crack use or injection drug use (109). This study did find a significant association between prior sexual abuse and the following HIV risk variables: any drug injection; and “severe HIV risk” (which was a composite variable including any one of the following: sex trading, inconsistent condom use, non-enrollment in a methadone program, or sharing needles) (109). Finally, one study concluded that there was no significant association between sexual abuse and a panel of HIV risk factors, including multiple sex partners, injection drug use, and condom use (110).

Three studies examined the relationship between physical violence and HIV risk. Again, the results of these studies were inconclusive. While one study reported a significant association between having a physically abusive partner and inconsistent condom use (46), no such relationship was found by the other study that investigated these variables (107). The third study reported a weak positive association between recent domestic violence and lifetime number of male sexual partners (106), but no significant relationship was detected by the other study that looked at these variables (107).

Five of these studies (45, 46, 107, 110, 111) had quite serious methodological limitations that cast doubt on their reported results. First, none of these studies reported a response rate, thus raising questions about internal validity. Second, confounding was not adequately addressed. All of these studies either reported crude (unadjusted) measures of association or controlled only for age (110, 111). Three of the studies (45, 46, 111) justified their decision not to control for confounding by showing that some of the potential confounders (e.g. education, income, age) were not associated with the exposure variables, and one study reported that the potential confounder (race) was not

associated with the outcome variables (110). Notwithstanding their claims, there are other potentially important confounding variables that were not investigated in these studies, such as partner's alcohol use/abuse, the individual's sexual orientation, and the individual's alcohol use/abuse. Surprisingly, one study (107) demonstrated that race/ethnicity was associated with both the exposure and outcome variables, but did not then control for this apparent confounder. Third, all of these studies were conducted among small numbers of individuals who came from "high-risk" groups: STD clinic patients (110), women of low socio-economic status (45, 46, 111), or female sex partners of male drug users (107). Therefore, the generalizability of the results of these studies to a larger population (external validity) is questionable at best.

In addition, one of these studies presented results that were not internally consistent regarding the association between rape and various sexual, psychological, and social factors (111, p. 81 Table 2). While attempting to calculate the 95% confidence intervals from the reported 90% confidence intervals, I noted that there were inconsistencies in the reported results (Table 3.3). The reported point estimates of the odds ratios do not correlate with the point estimates implied by the reported 90% confidence intervals. It is difficult to draw any conclusions about these data until this inconsistency is addressed and resolved.

In contrast to these five studies, the other two studies rest on much more solid methodological ground (106, 109). Response rates were reported; confounding variables (age, race/ethnicity, sexual orientation, and social network characteristics) were clearly described and included in the final model; and the data analyses were consistent with the hypotheses being tested. One of these studies (109), like the others, suffered from a small

sample size restricted to a “high-risk” population of opiate users; thus, the generalizability of this study’s results may be limited. If similar, methodologically solid studies were conducted in other subpopulations and groups, the results from these studies could be compared and analyzed in a synthetic fashion, in the form of either a critical review or a meta-analysis.

Comments on multiple comparisons

All nine studies reviewed here may be described as “suffering from” the multiple comparisons “affliction” (114). In other words, each of the studies examined associations between a panel of putative exposure variables and a panel of putative outcome variables. When the issue of multiple comparisons arises, the investigator(s) must make a conscious decision as to how to handle the situation. Statistically, the issue can be presented as follows: “If n independent associations are examined for statistical significance, the probability that at least one of them will be found statistically significant is

$$1 - (1-a)^n,$$

if all n of the individual null hypotheses is true” (115, p. 43), where a is the alpha cutoff value for significance. In other words, a study that generates a large number of associations will have a greater probability of generating false positive results than that indicated by the stated alpha level for individual comparisons. The alpha level for an individual test reflects the probability of committing a type I error, or the probability of rejecting the null hypothesis when it is true (114). Because the possibility of generating false positive results by chance increases when performing multiple comparisons, it has been argued that the alpha level for each individual comparison should be decreased in

order to preserve the stated alpha level for the entire study. A variety of techniques (such as the Bonferroni adjustment) exists to perform this type of statistical procedure (114).

Although there is still active debate regarding if and when multiple comparisons require statistical adjustment, there is quite a strong consensus that multiple comparisons merit, at the least, some discussion about the possibility of false positive results arising due to multiple comparisons (115-120). Only one of the studies reviewed here used the Bonferroni adjustment in order to reduce the possibility of a type I error (44). The other eight studies did not even discuss this issue (45, 46, 106-111).

Comments on cross-sectional studies

As with all cross-sectional studies, the studies reviewed here suffer from the limitation of not being able to establish the time sequence between the putative exposure and outcome variables, due to the fact that the data were collected cross-sectionally at the same time. In the present instance, this limitation is particularly relevant. There are at least four different ways in which gender-based violence and HIV infection (or HIV risk behaviors) can be related to each other (121). First, violence may help to create the conditions in which the adoption of HIV-preventive behaviors is more difficult, and, thus, violence may be part of the causal pathway to becoming infected with HIV (this is the hypothesis that is being tested in this thesis). Second, it has been reported that women (and men) suffer from increased violence *after* diagnosis of HIV infection; that is, a positive HIV test result may lead to abuse (122, 123). Third, the social context that leads to HIV exposure is also associated with increased risk of violence. For instance, HIV risk is linked to injection drug use, which occurs in a setting that is associated with a substantial risk for violence. In this scenario, the relationship between gender-based

violence and HIV risk would be *confounded* by the background social context that is common to both variables. Fourth, most women with HIV are living in poverty (15), a complex and multifactorial context associated with increased risk of intimate partner violence (26, 124).

Therefore, an association between violence and HIV infection, as determined by a cross-sectional study, may not necessarily differentiate among these various causal pathways. Indeed, the limitation of cross-sectional studies in not being able to distinguish between these various scenarios is considerable. Each of these relationships has very different implications for public health research, policy, activism, and advocacy. Thus, there exists the very real possibility of embarking upon misguided interventions based upon a faulty (but nevertheless understandable) interpretation of the results of such cross-sectional studies.

Five of the studies recognized the limited ability to make causal inferences in cross-sectional studies and included a discussion of this issue in their conclusions (44, 106, 108, 109, 111). The other four studies did not include a discussion of this issue in their conclusions (45, 46, 107, 110). Two of these studies may have felt justified in not addressing the issue of temporality due to the fact that the exposure and outcome variables were somewhat time-specific (107, 110); the exposure variables were lifetime history of gender-based violence while the outcome variables attempted to record more recent HIV risk behaviors. For instance, one study recorded lifetime history of sexual abuse as the exposure variable (e.g. "Have you ever been forced to have sex against your will?") while it utilized HIV risk behaviors within the past 90 days (a recent time frame) as the exposure variables (110). Although the temporal sequence is most likely to follow

the putative exposure-outcome relationship, it is not necessarily true that this would always be the case. Therefore, these two studies would have benefited greatly from a more sophisticated discussion of this issue. The third study that failed to address this issue may have also intended to rest upon a similar justification (45). However, in addition to my comments above, this study measured certain outcome variables without a specific time frame (e.g. “Would you be afraid to ask a man to use condoms because he might hit you?”), in which case the temporal sequence is not at all clear. The fourth study included exposure and outcome variables in the same time frame (within the past three months), which again raises the same difficulties as with all other cross-sectional studies (46). The failure of these four studies to address the limits of causal inference in cross-sectional studies in their discussion is a shortcoming of the studies.

The only way to be absolutely certain of the temporal sequence of gender-based violence and HIV infection would be to conduct a prospective study in which data on HIV status and gender-based violence would be collected from a cohort at baseline. After excluding HIV-positive individuals, this cohort would then be followed over time and data on HIV status (indicating seroconversion) and violence would be collected at periodic intervals. This study design would yield an unambiguous temporal relationship between violence and HIV infection. However, the difficulties associated with such a study—time requirements, financial costs, ethical issues related to monitoring gender-based violence and partner’s HIV status without intervention (125), ethical issues related to partner notification in the context of domestic violence, difficulty in establishing the exact timing of an abusive event by self-report, and waiting for seroconversion from HIV-negative to HIV-positive status, amongst others—would be formidable indeed. In

addition, it is highly likely that the behavior of an individual (related to either gender-based violence or HIV risk behaviors) would change due to the regular follow-up visits, the informed consent process, and potential communication between study participants.

The other potentially useful study design would be a case-control study, in which incident cases of HIV would be defined as “cases” and seronegative individuals would be defined as “controls.” A newly developed “sensitive/less sensitive” testing strategy allows for the diagnosis of early HIV infection (126); thus, it is possible to detect individuals who have recently seroconverted. In this instance, it would be possible to frame the violence question in such a way (e.g. “Before the past three months, did you ever experience domestic violence?”) as to effectively circumvent the temporality issue. However, this type of case-control study presents difficulties of its own: technical difficulties with conducting the assay (until very recently, only a few laboratories were allowed to perform the analysis), choice of a valid control population, recall bias associated with an individual’s knowledge of one’s disease status, smaller sample size (due to lower number of incident infections as compared to prevalent infections) or longer enrollment period, and a persisting uncertainty about the temporal sequence of gender-based violence and HIV infection.

Comments on generalizability

Each of these studies except one (106) was conducted among a small group of “high-risk” women: STD clinic patients (110), women of low socio-economic status (45, 46, 111), or female sex partners of male drug users (107). Thus, the generalizability of these results to a larger population of women—the external validity—is questionable at best. Only four of the studies addressed this issue in their respective discussion sections

(45, 46, 109, 111). Although it may not be reasonable to expect each study to achieve comprehensive external validity, it can be reasonably expected that the results of the individual studies, when pooled together, could provide a window into the more general question of gender-based violence and HIV risk. The pooling of results of various studies—either a critical review or meta-analysis—requires, of course, that all of the studies be rigorous in their methodology and coherent with each other, in terms of the definitions and measurement of variables, and the management of confounding factors. Unfortunately, neither prerequisite was satisfied in the present instance. Hence, the issue of limited generalizability remains pertinent, both at the level of each individual study as well as the combined results.

Overall summary

Based upon the results of the nine studies presented here, the epidemiological evidence for gender-based violence as a causal risk factor for HIV risk (either HIV infection or HIV risk behaviors) is not conclusive. Among the studies reviewed here, there was no consistent relationship between gender-based violence and HIV risk. While certain studies found significant associations between gender-based violence and certain HIV risk behaviors, other studies reported statistically insignificant results for those same comparisons. Moreover, because many of the studies had major methodological limitations, it is difficult to decide which results are more reliable than others when they are in conflict. Nevertheless, a significant association between sexual abuse and inconsistent condom use was found across all the various studies, with one exception (107); however, that study received a very low quality score (Table 2), suggesting that its results deserve less weight. The association between sexual abuse and inconsistent

condom use is consonant with the hypothetical causal pathway being tested in this thesis project. Briefly, in the context of a violent relationship—manifested as the current threat of gender-based violence, the fear of provoking violence, or a history of violent experiences—a woman is situated in a position of decreased sexual decision-making power and decreased bargaining power. This lack of bargaining power, in turn, makes it more difficult to engage in successful condom negotiation, leading to inconsistent condom use and increased risk of HIV infection.

One study presented evidence that suggested effect modification by HIV status of the relationship between rape and various HIV risk behaviors (multiple sex partners, inconsistent condom use) (108). While it is not conventional to analyze effect modification by the putative outcome variable, the cross-sectional nature of this study allowed the authors to conduct their statistical analyses without attributing causal associations. Unfortunately, as discussed above, it was not possible to test the hypothesis of effect modification with the results as presented in the published paper.

Limitations related to multiple hypothesis testing, the inability of cross-sectional studies to determine the temporal sequence between putative exposure and outcome variables, and concerns about the generalizability of the findings, are common to all of the studies included in this review. Thus, any results—whether significant or insignificant—should be considered within the specific subpopulation that was included in each study, rather than as a statement to be made about gender-based violence and HIV risk in general.

A final issue to consider is the following: although considered here as one entity, the collection of experiences included within the construct “gender-based violence” does

not represent a homogeneous group of violations of bodily autonomy. Each particular type of gender-based violence may have its own set of psychological impacts, behavioral effects, and long-term sequelae with respect to HIV risk. For instance, having a physically abusive partner almost certainly constitutes a completely different type of experience than being the victim of rape. It may very well be that only a subset of experiences included within the larger framework of “gender-based violence” is responsible for any association between violence and HIV risk.

New Directions for Future Research

There remains a substantial need for more epidemiological studies that examine whether gender-based violence is associated with an increased risk of HIV infection, and if so, under what circumstances. Future studies would have to grapple with the following issues: study design, confounding variables, temporal relationships, ethical considerations, defining “gender-based violence,” and developing appropriate measures of violence.

Given the difficulties associated with prospective studies as described above, I believe that future studies will, of necessity, remain cross-sectional or case-control in nature. Both types of studies would have to deal with the issue of information bias related to under-reporting of gender-based violence episodes. Many of the studies included in the present review discussed the difficulties associated with self-reported sexual abuse history. Most of the authors felt that under-reporting would result from utilizing self-reported histories (45, 46, 108-111). Such under-reporting would lead to misclassification of the exposure variable. Both differential and non-differential misclassification could yield biased results. Differential misclassification may bias

results either towards or away from the null. A bias resulting from *independent* nondifferential misclassification of a dichotomous variable is toward the null value. Nondifferential misclassification of a polytomous variable, or nondifferential misclassification with *dependent* classification errors, however, may bias results either towards or away from the null (127). On the other hand, recall bias could result if the individual knows her HIV status (either positive or negative). There are two scenarios in which an individual may know her HIV status: 1) in a cross-sectional study, the individual may have been tested for HIV infection prior to enrolling in the study; and 2) in a case-control study, the person is assigned to either the case or control group based upon her HIV status. This information could affect the response of an individual to the question of gender-based violence. Recall bias is a form of differential misclassification (127).

Case-control studies, of course, would have to handle further complications arising from selection bias. Determining an appropriate control group, and adhering to the study base principle, are difficult ends to achieve (127), and this difficulty could be complicated by the variable in question (HIV status). For instance, if cases are defined as HIV+ individuals, should controls be HIV- individuals from the community, from the clinic at which the study is being conducted, from a list of friends, or from a “comparison” disease group such as cancer patients? Any future study of this issue would have to attend to the complications posed by the different study design strategies available to address this question.

Several of the studies included in this review highlighted the need to control for potential confounding variables, although only a few of them adequately addressed this

issue. Future studies would also have to ensure appropriate measurement and control of these potential confounding factors, and one of the studies reviewed here provides, I believe, a benchmark to be used by future investigators (109). At a minimum, the following confounding variables—all of which were taken from this “benchmark” study (109)—should be investigated, and, if needed, controlled for: age, race/ethnicity, sexual orientation, alcohol use/abuse, and social networks. It is only with adequate control of confounding factors that a more accurate conclusion can be reached regarding the association of gender-based violence and HIV risk.

An inherent limitation of the cross-sectional and case-control study designs is the inability to determine definitively temporal relationships between putative exposure and outcome variables. In the present instance, this limitation raises some particularly difficult analytical issues, as described above. This complication can be handled in one of two ways, at either the subject selection stage or the data collection stage.

The subject selection strategy can be illustrated within the context of a cross-sectional study. In a cross-sectional study, the subjects should be enrolled and administered a questionnaire *before* they know their HIV status. Thus, any association between gender-based violence and HIV status (to be determined after administering the questionnaire) could more reliably be attributed to the causal scenario in which violence precedes and leads to HIV infection. This type of strategy could be employed when conducting a study at blood banks, voluntary testing and counseling sites, and STD clinics, by enrolling subjects at the pre-test counseling session. To be sure, this strategy would not work for case-control studies, since by definition the subjects are selected based upon their outcome status. In the instance of either a case-control or cross-

sectional study, the data collection strategy could be utilized: the questionnaire should include a series of questions that make explicit the time frame during which episodes of violence occurred (e.g. "Were you raped before marriage"; or "Have you ever been raped? If yes, at what age"; or "Were you raped before you learned of your HIV status"; etc.).

Defining "gender-based violence," and the related task of developing appropriate and useful measures of violence, may be arguably the most formidable task at hand. Gender-based violence, as utilized in this review, has included rape, sexual abuse, sexual coercion, battering, domestic violence, and murder (128, 129). However, others have pointed out that the spectrum of violence experienced by women also includes psychological and emotional violence, such as verbal abuse; isolation (either social or financial); jealousy or possessiveness; verbal threats of harm or torture; threat of abandonment; and damage or destruction of the personal property of the women (130, 131). Especially within the arenas of condom use negotiation, gender power relations, and HIV risk and vulnerability, these other forms of gender-based violence may take on increased importance. It is readily apparent that psychological abuse (such as the threat of physical violence or the threat of abandonment) may play a role in determining the success of a woman's attempts to negotiate condom use. The hypothesis that psychological and/or emotional abuse increases risk of HIV infection warrants testing, as it may have important implications for health practitioners, health services, and health policy.

Although childhood sexual abuse was not examined in this review, a growing body of evidence suggests that childhood sexual abuse may indeed be a significant risk

factor for participation in HIV risk behaviors and subsequent HIV infection (106, 110, 132-134). Preliminary reports indicate that victims of childhood sexual abuse are more likely to enter into prostitution, use injection drugs, and not use condoms regularly, all of which are risk factors for HIV infection (128). This newly discovered link between violence and subsequent HIV risk deserves further study and elucidation, as it may have considerable impacts on services for victims of childhood sexual abuse, as well as HIV/AIDS prevention programs. A recently published literature review does summarize the existing literature that examines the relationship between childhood sexual abuse and HIV risk (135).

Developing measures of these various forms of gender-based violence is a substantial challenge. The issue of under-reporting and reliance upon self-reported incidents of violence is pertinent to the present discussion. An individual may not feel comfortable with a questionnaire-based format for discussing these sensitive issues. Instead, more open-ended, intimate discussions may be required before a more impersonal questionnaire can be administered. In addition, one must place greater emphasis on developing a rapport with the individuals to be studied, in order to facilitate the questionnaire process and to make the individuals as comfortable as possible while discussing such sensitive issues. Open-ended, qualitative studies may also yield insight into ways in which questions that are acceptable to the study population can be written and framed.

The issue of gender-based violence, and a possible relationship with HIV infection, is important enough to justify allocating resources to clarify further whether, and to what extent, such an association exists. The studies conducted thus far have

presented results that are suggestive of possible relationships between gender-based violence and different HIV risk behaviors, although the results are not consistent and the studies are characterized by significant methodological shortcomings. If future studies take into account some of the issues described above, their results should be more reliable and informative.

Implications for the Thesis Project

Although almost all of these studies were conducted in the U.S., I have learned quite a few lessons that I have tried to apply to my thesis project. These lessons have fallen into the following areas: study design, controlling for confounding factors, ascertaining the temporal relationship between violence and HIV infection, defining gender-based violence in the south Indian context, and ethical considerations.

The decision for an appropriate study design ultimately led to a choice between a case-control study and a cross-sectional study. Although a case-control study using the “sensitive/less-sensitive” testing strategy was an attractive option, as it would allow for a more reliable temporal sequence to be constructed, I ultimately chose a cross-sectional study design for the following reasons. First, at the time the study was begun, it was not technically possible to use the “sensitive/less-sensitive” testing strategy (due to the strict control over where the technology was allowed, and due to Indian Council of Medical Research restrictions against the shipment of blood samples from India). Second, the estimated small number of incident infections detected at YRGCARE translated into an unmanageably long enrollment period. Finally, the case-control study design seemed less attractive due to other issues related to recall bias, ethical considerations, and logistics. Overall, a case-control study using the “sensitive/less-sensitive” testing strategy was not a

viable alternative at the time. Thus, I opted for the cross-sectional study design, while remaining well aware of its limitations, as previously described.

The importance of controlling for confounding factors influenced the creation of the survey instrument. The following potential confounding factors were included in the questionnaire: age, education, occupation, religion, caste, sexual orientation, alcohol use, age at marriage, and number of children.

I utilized both the subject selection and the data collection strategies described above, in an attempt to minimize the uncertainty regarding the temporal relationship between gender-based violence and HIV infection. Individuals were recruited and interviewed during the pre-test counseling session, so that HIV status was disclosed to the individual after the questionnaire was administered. To be sure, it was quite likely that an individual had gone elsewhere for HIV testing prior to coming to YRGCARE, and thus already knew his/her HIV status. Hence, a series of questions was included in the questionnaire to address that possibility. In addition, two of the questions on violence included temporal clauses, in an (imperfect) attempt to shed some light on the temporal relationship between violence and HIV infection.

Defining and measuring gender-based violence presented a formidable challenge. I purposefully used a broad definition of “violence,” given the Indian context (Chapter 2) and due partly to my own ideological bias. Physical, sexual, psychological, and emotional forms of gender-based violence were all included in the survey instrument. The specific questions were derived from focus-group discussions and in-depth interviews conducted by my colleagues at YRGCARE prior to the initiation of this study.

Conducting this study presented some difficult ethical dilemmas and difficulties, due to the sensitive nature of the overall project and the specific questions (regarding sexuality, violence, HIV, and marital relations). The study was completed at the YRGCARE voluntary testing and counseling center; thus, individuals voluntarily came to YRGCARE to seek out its services. This circumvented many of the ethical issues related to conducting a community-based survey. Second, all interviews were conducted in a private room by trained HIV counselors and educators. This was done to protect the privacy of each individual, and to put each individual at ease. Interviews were conducted in the native language of the individual, in order to make the individual more comfortable with the interview process. Finally, we ensured confidentiality and privacy of information at all stages of the study.

In summary, the previously published literature on gender-based violence and HIV risk has not yielded any definitive results. However, a critical appraisal of the literature points to areas of further inquiry, different possible study designs, and ethical issues to consider while conducting research on this topic. Moreover, the literature provides an intellectual and empirical landscape within which to situate the study that I conducted in south India.

Chapter 4: Categories, Identities, Power, and Epidemiology

As discussed in Chapter 1, a much-publicized article was published in the *Journal of the American Medical Association* in December 1997. Researchers from Johns Hopkins University, in collaboration with physicians from the National AIDS Research Institute in Pune, India, reported that there was a significant risk of the “spread” of HIV infection “to other populations,” specifically “married monogamous women in India” (3). In their concluding section, these authors stated that “Indian *culture* discourages communication between men and women regarding sexual behavior” (3, emphasis added). As discussed previously, this article was amongst the first to categorize “married monogamous women in India” as a “new risk group” for HIV infection, and, as such, has been quite influential in informing and guiding research studies, AIDS prevention programs, and government policies since its publication. As the fallout from this study has demonstrated, the impact of one study—and of epidemiology as an enterprise—is indeed quite impressive.

In fact, as discussed in Chapter 1, the rationale behind this thesis project was based, in part, on the conclusions reached by Gangakhedkar and others regarding the “spread” and “permeation” of HIV into the population of married women in India (2, 3, 39), and the consequent need to devise prevention strategies that are appropriately targeted and effective. At this juncture, I would like to pause for a moment, and ask: Is epidemiology an appropriate method to be utilizing for the study of HIV risk for married women in south India? What ramifications may it have?

The enterprise of epidemiology, as I will argue, is tied to power dynamics in society. I believe that epidemiological studies have political ramifications, with respect

to creating subjects, managing populations, and controlling bodies. This power may at times be *repressive*, in that one group exerts control or domination over another. In fact, I will argue that the modern institution of public health still has vestiges of the colonial project of tropical medicine, and that epidemiological studies—especially of sexual behavior and violence—may take on a neo-colonialist character. At the same time, however, Foucault has shown that power is *productive*: subjectivities produced through knowledge create new identities and forms of resistance through technologies of the self (136). Thus, it may be possible for the discipline of epidemiology to be a “liberating” science with respect to ways of thinking about politics, identity, and freedom. In this chapter, I would like to take the opportunity to critically explore these issues and dilemmas.

Specifically, I would like to critically examine two entities: 1) the use of the category “married monogamous women in India” in epidemiology and public health; and 2) the invocation of “Indian culture” in modern epidemiological literature. In this way, I wish to engage in a process of critical self-reflection, a process that should ideally characterize the entire study project. With respect to the use of categorization in epidemiology, I wish to ask the following questions: How was this category (“married monogamous women in India”) established? How does the category operate? How does it constitute subjects? How do these subjects define themselves in light of the processes of categorization, study, and resistance? What power dynamics are involved in the process of categorization? Where are the points of rupture within the articulations of power? Within this discussion, I would like to turn to the use of “culture” and ask: What does “culture” code for? How is culture reified? How is culture re-deployed, and for

what purposes? In the process, I hope to critically examine the potential uses and abuses of epidemiology in the study of HIV and domestic violence in south India. Ultimately, I hope to apply this critical reflexivity to praxis in such a way as to maintain an ethic of critique and improvement throughout my activities

Categories, Identities, Epidemiology, and Power

How does the squatter come to be? As feminist scholar Mohanty argues:

And it is in the production of this 'third world difference' that Western feminisms appropriate and 'colonize' the constitutive complexities which characterize the lives of women in these countries. It is in this process of discursive homogenization and systematization of the oppression of women in the third world that power is exercised in much of recent Western feminist discourse, and this power needs to be defined and named. (137)

There is much to be unpacked in this passage from Mohanty's essay on feminist scholarship and colonial discourse. First, she mentions the *production of difference*, which is central to the process of "Othering" inherent to fields of study such as epidemiology (138). Second, she ties together the process of Othering with the *exercise of power*. Third, she describes the discursive process of knowledge-formation as *appropriating* and *colonial*. Fourth—and although Mohanty does not address this issue specifically, she legitimizes it as necessary to the critique of "Western" feminisms—we must evaluate how the discursive process of knowledge-generation *produces identities and subjectivities* that facilitate "third world women" breaking through the articulations and structures of power. Let us examine each of these in turn, with an eye towards implications for the field of epidemiology and my specific research project on HIV risk and domestic violence in south India.

The Production of Difference

In her critique of the male sociological universe, Smith describes the Othering that occurs in “patriarchal” sociology derived from the positivist tradition: “He observes, analyzes, explains, and examines as if there were no problem in how that world becomes observable to him” (139, p. 89). Indeed, the field of epidemiology is also steeped in the post-Enlightenment tradition of positivism: external, concrete, discrete, measurable entities are available to the researcher’s inquisitive hands, mind, and questionnaires. As a standard introductory epidemiology textbook states, one of the fundamental assumptions of epidemiology is “that human disease has causal and preventive factors that can be identified through systematic investigation of different populations or subgroups of individuals within a population in different places or at different times” (140, p. 3). As long as the populations (and individuals within those populations) can be well defined, the disease outcome is easily identifiable, and the exposure variables are quantifiable, then the epidemiologist can assume a sense of objectivity and detachment in piecing together and analyzing various “objective” data. Inherent to this process is a self-other distinction, in which the “study population” is viewed as a separate, discrete, well-circumscribed entity whose bodies and minds are available to the whims and fancies of the investigator. Thus, researchers from Johns Hopkins (and UC Berkeley) can sift through tables and charts filled with numbers and codes that represent an external, quantifiable Other: married monogamous women in India. The production of difference also relies upon the invocation of “culture,” an issue to which we shall return later in this chapter.

Othering and the Exercise of Power

The process of Othering is itself an *exercise of power*. In a very crude sense, this power is related to the international political economy of public health and epidemiological research. Large grants from institutions such as the National Institutes of Health in the U.S., and the Medical Research Council in the U.K., provide the financial resources that support investigators from countries like the U.S. and U.K. to conduct studies of individuals and bodies in countries like India, Ivory Coast, Zimbabwe, and Thailand. In addition, there is a tradition of doing studies with “convenient” populations: commercial sex workers in Calcutta (141), prisoners in Sao Paulo (142), professional blood donors in Delhi (52), and pregnant women in Bangkok (143). It is argued that the use of these “convenient” populations is justified in the interests of furthering scientific knowledge and public health objectives. Yet it is rarely asked why *these populations* are considered “convenient,” and what structural factors play a role in determining whose body is studied, by whom, and for what purpose. For instance, about 40 years ago, the initial clinical trials of oral contraceptives were conducted in Puerto Rico, Mexico City, and Haiti, for many of the same “scientific” and “politically expedient” reasons given for the recent HIV vertical transmission prevention trials in Africa: tests needed to be conducted where the birthrate was high, where families could be “tracked,” and where the “ethical climate” would allow for the trials to take place (144). The length of each round of the trial was about six months, after which time the investigators discontinued the supply of the pills. Did women who were the subjects of those studies receive any long-term benefits from the study? That question did not seem of concern to the primary investigators (144). Moreover, the “Pill” has arguably

revolutionized sexual relations and sexuality in the U.S. and Europe; yet, do people now, 40 years on, remember (or even know about) the women from Puerto Rico, Mexico, and Haiti, who were involved in the initial research of the “drug that changed the world” (144)? Forty years from now, will we remember (or even know about) the people from Thailand, upon whom the HIV vaccine (arguably a vaccine that could “change the world”) was initially tested?

What does it mean that the women from Puerto Rico, Mexico, and Haiti, are essentially invisible to the present-day beneficiaries of the research? Indeed, public health and medical knowledge often depoliticizes the ethical and political implications of research at both the local and international levels. The washing out of those faces is part and parcel of the act of Othering, and is undoubtedly bound to the exercise of power.

Colonial Knowledge and Imagination

In response to Mohanty’s challenge to “define and name” this power, I believe that we can look to postcolonial critical theory to shed some light on the colonialist vestiges embedded in modern public health projects, including epidemiology. I begin with Patton’s assertion that “tropical medicine and epidemiology developed as crucial parts of nineteenth- and early twentieth-century colonial expansion” (138, p. 183). Her argument proceeds roughly thus. Tropical medicine, from the beginning, dealt with the health problems that Euro-Americans faced in the colonies, “reflecting both the reality and the fantasy of the colony.” Priorities and agendas were established, not according to the needs and suffering of the colonized, but rather in response to the needs and desires of the colonial regime and its administrators. Furthermore, the project of tropical medicine rested upon the assumption that local diseases affected indigenous people differently than

they affected Euro-American colonizers. Behind this assumption lay a deeper-seated ideology that it was possible to “separate an indigenous population, perceived to be physically hearty but biologically inferior, from a colonizing population, believed to be biologically superior even while subject to the tropical illness” (138, p. 185). Thus, central to the project of tropical medicine was the production of difference—the ability to create an Other (an inferior Other, at that)—in line with the larger colonial project and based upon structures of power.

The process of this colonio-political production of difference relied upon the creation and enumeration of categories: “The colonial politics of exclusion was contingent on constructing categories” (145, p. 14). Colonial control depended upon discerning who was “white,” who was “Hindoo,” and how many different types of colonial subjects there were. This process of categorization and classification is most clearly evident in the Indian census, which, rather than being a passive tool for gathering data, has been shown to have created new forms of “category identity” and, subsequently, new conditions for identity politics and struggles (146). To be sure, colonial categorization worked upon an already existing social imaginary in which stereotypes and discrimination existed. However, the various forms of categorization (of which the census is but one example) tended to solidify or “cement” these categories, precisely for the purposes of colonial management and administration. For instance, although caste differences and caste discrimination had existed long before the British colonized India, caste in pre-British India was not a totally rigid institution (76). Caste identity took on a new “permanence” and “solidity” as a result of the categorization/classification component of the British census activities.

Therefore, as Das has argued, “administrative records cannot be treated as documentary evidence of an undiluted truth” (147, p. 42). While discussing the rhetoric surrounding a more contemporary event—the Ramjanmabhumi-Babri Masjid dispute—Das convincingly demonstrates that the British constructed a narrative with a conscious motivation to essentialize the distinction/differences between Hindus and Muslims:

In the official narrative of the dispute, as it was framed, events which pointed to a co-operation between Hindus and Muslims, to the rivalry between different Muslim groups which tried to establish their own influence and patronage, and most importantly to the role of the British administration in making decisive interventions to alter local power structures and co-opt loyal Muslims within positions of power, are all muted. (147, p. 43)

In addition to commenting on how fluidity takes on fixity, Das shows how, in this master narrative, the British are represented as “neutral mediators” of an “eternal conflict” between Hindus and Muslims. This same geometry is evident in the American rhetoric of the atrocities in Rwanda or Kosovo: each situation is an eternal conflict between two mutually exclusive and distinguishable groups, an end to which requires the mediation and involvement of the “savior” U.S.

Appadurai makes a strong argument for how, in addition to mere categorization, the *enumeration* of bodies was a part of the colonial imaginary, in that “Number was thus part of the enterprise of *translating* the colonial experience into terms graspable in the metropolis” (146, p. 126). Apart from constructing categories, *statistical thinking and writing* had become part of the British political imagination, since good numerical data would facilitate embarking upon social control or reform projects. Enumeration in the colonies served many purposes—pedagogical, political, and disciplinary. The process of enumeration may, in fact, have been integral to the reproduction and reconstitution of patriarchy that resulted from the land settlements in the nineteenth century in India. As

Appadurai explains, the enumerative practices were central to the land settlements of the nineteenth century. These land settlements, in turn, produced several inter-related transformations that reproduced and reinstated patriarchy into the Indian social fabric. For instance, individual property rights were given primarily to men, thus barring women from equal access to ownership of productive resources and assets. In addition, in a development related to the “solidification” of identity categories, the colonial regime codified the customs of certain groups as law, thus giving juridical sanction to certain patriarchal practices related to marriage and property (148).

As has been hinted at repeatedly in the discussion above, the colonial processes of categorization and enumeration were implicated in the “concretization” of pre-existing social imaginaries, thus creating new imaginaries and “colonial knowledge.” These developments are related to the processes of the “reification of culture” and the “construction of ‘tradition’” that were also not-so-benign byproducts of the colonial regime. In her analysis of the debate on *sati* (widow immolation), Mani brilliantly demonstrates how a process of “invention, codification, and transformation” by the colonial regime led to the *creation* of a “scriptural tradition” for *sati* where a unified tradition *did not exist* before (149). Since the colonial regime depended upon an “official insistence” of the “scriptural status” of *sati*, great efforts were taken to construct such a tradition. In 1805, when the question of the scriptural sanction for *sati* was first raised by the colonial regime, Hindu pundits were asked whether a woman was “enjoined” by the sacred Hindu texts to voluntarily burn herself with the body of her husband. The pundits’ response that the texts merely *permitted* the practice in certain situations was transmogrified into a scriptural “encouragement” of *sati* in official colonial documents.

Colonial policy on *sati* for decades (and colonial and neo-colonial perceptions of *sati* even today) was based upon this mis-understanding and mis-representation—nay, this *fabrication* and *reification*—of tradition where no tradition *per se* previously existed. *Sati* was reinscribed as a religious “tradition,” and this tradition came to be represented as a “timeless, unmotivated ritual” (149, p. 182)—a construct that fit well into the colonial imagination and its “civilizing mission.”

More contemporary examples of this reification and “rigidification” of culture abound. In her discussion of the post-Partition population movements between India and Pakistan, Das describes how women came to be symbolized as the “honor” of the nation and how, therefore, abductions of women were “transgressions on this honor.” Citing an example of a Muslim woman who voluntarily eloped with and married a Hindu man, only to be “re-abducted” by the Pakistani government and forced to rescind her marriage, Das comments:

These cases tend to show that whereas community practices with regard to marriage, adoption and the fostering of children were, at the level of practical kinship, flexible enough to accommodate a wide variety of behaviour, the state’s more abstract construction of purity and honour brought women under a far stricter control than that exercised by the family. (147, p. 81)

To take another example, the same epidemiological study introduced at the beginning of this chapter reported that “Indian culture discourages communication between men and women regarding sexual behavior” (3, p. 2091). Rather than critically examining this statement, the authors perform a typically neo-colonialist move: they make a sweeping generalization and then proceed to suggest policy initiatives and program interventions that have been influential in the subsequent public health and international health

discussions on this issue. Indeed, it can be argued that a modern reincarnation of the *sati* debate is upon us.

Epidemiology, Performativity, and Exclusion

I would like now to return to my original interest: how is all of this relevant to modern epidemiology and the epidemiological project that I carried out? Although some may consider epidemiology to be “performative” in contradistinction to tropical medicine (138), I would argue that epidemiology, as it is practiced today, has yet to rid itself of the vestiges of colonialism and colonial medicine. As has been discussed previously, epidemiology is “in the business” of creating categories in order to be able to analyze patterns of disease frequency in populations. Furthermore, epidemiology has as its foundation the Number. Rates of disease are among the first concepts taught to students of epidemiology: a standard introductory epidemiology textbook states that in order to achieve the principal objectives of the discipline, “it is first necessary to measure the frequency of a disease or other outcome of interest” (140, p. 54). Reminiscent of the aim of colonial enumeration as summarized by Appadurai, epidemiology also has as its ultimate objective the eradication and prevention of disease through the mechanisms of social control, clinical advances, and “public health projects.” Enumeration in epidemiology is achieved by constructing populations and subpopulations “in order to make epidemics visible” (138, p. 187).

How is it that epidemiology may “create tradition” or “reify culture”? At a very simple level, epidemiology creates “imagined communities” of “risk groups” who are vigilantly monitored for occurrences of disease and illness. These imagined communities may be based on identity categories that were once fluid, but that may become rigid. At a

more complex level, the variables used in an epidemiological study may not do justice to the multiplicity of experiences of the study subjects. For instance, some epidemiological studies of gender-based violence tend to group together “rape” and “physically abusive partner” into one composite variable of “victim of gender-based violence” (45, 108). However, having a physically abusive partner almost certainly constitutes a completely different type of experience than being the victim of rape, as discussed in Chapter 3. At an even more sophisticated level, the study population of an epidemiological study may not be representative of a larger group of people, which therefore raises doubts about generalizability. Thus, when researchers make the claim that “[w]omen in India who do not report engaging in sex work [...] may be representative of a larger general population of married, lower-income, peri-urban women whose husbands have multiple partners” (3), I begin to doubt the conclusions and recommendations of the authors. How can one group of women attending one local STD clinic in one part of India be “representative” of any “larger general population,” especially in a country like India with almost 1 billion people from dozens, if not hundreds, of disparate communities, cultures, and societal structures?

Unexamined statements such as these, in the context of epidemiological or “biomedical” research studies, may carry a significant amount of influence in the worlds of public health, health policy and health care services. Again, the image of the transmutation of scriptural permission to scriptural encouragement, so aptly described by Mani, returns with full force in this instance, since a very similar process may be occurring: one study conducted among one population informs policy and future studies affecting an entire country and possibly more. Epidemiological studies constitute

a powerful and attractive “way of seeing,” the impact and political implications of which it would behoove us to acknowledge.

Thus, I argue that epidemiology is “performative,” not in contradistinction to tropical medicine as posited by Patton, but rather by invoking Butler’s definition of “performativity” as “the reiterative and citational practice by which discourse produces the effects that it names” (150, p. 532). As such, the individual in epidemiological studies is produced through *exclusion*, through what Butler terms “a set of foreclosures” and “radical erasures” that are “refused the possibility of cultural articulation” (p. 535). In a material sense, this is achieved through the infamous “questionnaire,” with its fixed categories and constrained response possibilities that pigeonhole individuals into one group or another. Thus, female sex workers come to be defined as “those who reported ever receiving money in exchange for sex, or identified their occupation as sex workers or former sex workers” (3, p. 2090). This static definition does not do justice to the variety of experiences of female sex workers, and excludes the very real possibility that having once received money for sex may have nothing to do with recent sexual activity. However, true to the concept of performativity put forth by Butler, epidemiology effectively *produces* the female sex worker through this process of exclusion and subjects her to further study and violation.

Knowledge is Productive: Identities and Subjectivities

This chapter would be incomplete without a discussion of bio-power, the productiveness of power, and the subjectivities created through discourse. I am here invoking the later Foucault, as evidenced in his *The History of Sexuality* (136). Crudely, discourse creates new forms of life. In other words, power is intimately related to

knowledge-formation, and power is productive in that discourses produce new subjectivities. Therefore, it is possible to find “points of rupture” within the articulations of power that allow for new subjectivities and “forms of life” to creatively develop. Within this formulation, individuals, collectivities, and even academic disciplines can engage in liberatory and creative activities.

One way of conceptualizing this issue is described by Patton when she problematizes the work of critical theorists on the Othering activities of public health and epidemiology: “[W]e failed to demonstrate how (or even whether) the several centers which constitute the various “Others” of AIDS discourse aggregate into something like a ruling class or a grounding discursive formation” (138, p. 179). Thus, individuals can re-deploy reified cultural constructs to suit their particular political objectives. For instance, the colonial notion of “native culture” as different and separate was reincarnated in the Indian rhetoric surrounding the nuclear tests in the Pokhran in 1998. At that time, the Bharatiya Janata Party (BJP), under the leadership of Prime Minister Atal Behari Vajpayee, produced a very powerful and inciting defense of the nuclear tests, relying upon a notion that this was a “Hindu” and “Indian nationalistic” act that should be viewed as a “patriotic” affront to the “neo-imperial powers” of the West, namely the U.S. and Europe.

This Nietzschean example of *politics of resentment*, the “wounded character of politicized identity’s desire” (151, p. 55), is evident in the Sikh militant discourse of the past two decades. The colonial strategy of essentializing differences between two groups and portraying conflicts as “eternal” surfaces again in a transformed manifestation. Here, Sikh militant discourse draws upon yet another “eternal” dualism—the male/female or

masculine/feminine trope—to construct its own master narrative of difference and resistance. The Hindu is portrayed as the feminine Other that destroys the Sikh community by robbing it of its masculinity and replacing it with a feminine character. Involved in the creation of this master narrative is “systematic ‘forgetting’” (147, p. 129), akin to the systematic forgetting that the British colonial regime experienced with respect to the “tradition” of *sati*. Das explains how this selective amnesia is no different from that which the Sikhs experienced in the 1940’s in the wake of the communal violence involving the Muslims: “All the darker aspects of the past are purged by being projected on to Hindus” (p. 129). I would argue, in addition, that the genealogy of this selective amnesia can be traced back to the colonial regime and its own version of “systematic forgetting.”

Another vivid example is evident in modern South Africa. Comaroff describes how the discourse of human rights was part of the colonial regime’s machinery in producing and reifying stereotypical views of tribal life in South Africa, while introducing new sources of division among the various peoples in the “native population.” Rights discourse, largely utilized by missionaries, introduced new notions of ownership, citizenship, and civil rights, and was used to regulate and reform conjugal customs and property relations. The Tswana notion of rights and personhood went largely unrecognized. In the process, this rights discourse gave people a new identity that provided the technologies and vocabulary for resistance against the colonial regime. As Comaroff notes, the African National Congress has remained close to the ideology of liberal modernism imprinted by the Protestant missionaries (152).

Implications for the Thesis Project

Of course, one of the implications of the notion of “productive power” and “discourse-influenced subjectivity” is that academic disciplines (or, more accurately, individuals within those academic disciplines) can find “points of rupture” and create new ways of thinking about politics, identity, and freedom. Thus, it may be appropriate to ask: Is it possible for epidemiology to be a “successor science” (or at least one component of an over-arching successor “science”)? I use “successor science” deliberately here, in the way that Haraway envisions: “a successor science project that offers a more adequate, richer, better account of a world, in order to live in it well and in critical, reflexive relation to our own as well as others’ practices of domination and the unequal parts of privilege and oppression that make up all positions” (153, p. 187). Sarat and Kearns explore the extent to which the theory of rights “constitutes us as subjects and are, at the same time, implicated in political struggles” (154, p. 3). Can the same be done for epidemiology?

It is beyond the scope of this chapter to fully address this question, but a few preliminary thoughts are warranted. First, I (as an epidemiologist) should be critically reflexive of my research activities: who I am studying, why I am studying *them* at *this time*, why is my research question of current importance, and what are the potential political ramifications of the research I do (not only as a result of answering my research question, but also as a result of creating different identity categories).

Second, the categories I choose to use should be derived from the experiences of the people I am studying. Smith suggests that we begin with “an investigation of our directly experienced world as a problem” as a way to “discover or rediscover the society

from within" (139, p. 92). Haraway's notion of "situated knowledges" presupposes that the object of knowledge is an actor and an agent, not a passive piece of datum to be read and interpreted by the "objective" researcher (153). On the other hand, Scott provides a powerful critique of the use of experience as the basis for "science," since "[e]xperience is at once always already an interpretation *and* is in need of interpretation [...] it is always contested, always therefore political" (155, p. 37). In other words, subjects are constituted through experience, and experience takes on, therefore, a discursive character. Experience must therefore be interpreted before it can be taken as an "objective" piece of data. One strategy that I decided to utilize, in order to engage with this challenge, was to include open-ended questions within the overall structure of the epidemiological questionnaire-based study. In addition, I consciously decided to use a broad definition of "violence" based on the results of focus-group discussions and open-ended interviews that my colleagues at YRGCARE conducted. While this was far from a perfect solution, it appeared to me to be at least a small step in the direction of maintaining a sense of self-reflection during the course of the study.

Third, I should be wary of reifying culture and creating tradition during the course of my work. In a contemporary redeployment of "culture" to explain patterns of behavior, one of my colleagues at YRGCARE explained that domestic violence is probably not the prime factor for decreased sexual communication between husband and wife. Instead, he said, there are "deeper cultural issues" that play a role, including women's upbringing, and the age difference between husband and wife. While these "cultural factors" may, indeed, play a significant role in determining the extent and type of sexual communication that occurs within marriage, I am hesitant to apply the label of

“culture” unabashedly to this issue. Specifically, I wanted to un(dis)cover what specific aspects of “culture” within the specific context of modern-day south India are related to sexual communication in marriage.

Finally, I should heed the Freirean notion of “the ‘politicity’ of research and the ‘researchability’ of the political,” and actively take on the politics associated with Freire’s pedagogy: “the liberation of the oppressed as historical subjects within the framework of revolutionary objectives” (156, p. 12). This ties into the ethico-political nature of research, and the “ethical obligation to the other” of Levinas. If I am serious about women’s empowerment and women’s health in India, I should design my research and my program interventions in such a way as to provide the conditions to enable individuation of the self—to enable women to “perceive critically *the way they exist* in the world with which and in which they find themselves” so that “they come to see the world not as a static reality but as a reality in the process of transformation”(157, p. 71). This fits quite neatly into the Foucauldian notion of genealogy and reflexivity that also impels one to reflect critically upon her “position in the world.” Thus, in addition to conducting my research work with YRGCARE, I planned to form collaborations and relationships with women’s empowerment organizations, women’s rights organizations, and radical political groups, in Chennai. In the course of these interactions, I attempted to maintain a critical reflexivity and begin formulating ways in which “liberation” in the Freirean sense could be achieved for the women I worked with in Chennai.

To do all of this, of course, is not simple. Framing the (right) questions and maintaining vigilance about these issues throughout the duration of the project were formidable enough. In addition, this process was not immune from conflict. One

particularly illustrative example is the debate between my colleagues at YRGCARE and me regarding how to deal with the issue of caste. While I felt that it was important to include caste in the questionnaire, my colleagues disagreed quite strongly with me, stating that they wished to maintain a “caste-blind” approach to their services and their research. Although I respect the sentiment to “move beyond caste,” I feel quite strongly that to feign rejection of caste by not studying it is potentially more of an injustice than grappling with the issue and studying it in a responsible, reflective manner. In a world where, unfortunately, caste still determines (to a large extent) what work one does, who one marries, and whose rape cases are heard by the courts (158), it seems misguided to not examine the ways in which caste may influence violence, HIV risk, and the overall health of women in south India. In the end, caste was included in the questionnaire (as an open-ended question), despite the dissent of my colleagues at YRGCARE.

The discussion elaborated in this chapter marks the beginning of what I hope is a new, challenging way of approaching the rest of my education and career in medicine and public health. In the more immediate sense, these thoughts influenced (and continue to critique) the methods and analyses that I chose to utilize for this thesis project. Let us now turn to those issues in more detail.

Chapter 5: Methods

Study Area

Chennai is the capital of Tamil Nadu, a state in southern India with a population of approximately 60 million people (see Appendix 1 for map). According to the latest census in 1991, the population of Chennai was over 5 million people, the literacy rate was about 81.5%, and the primary language was Tamil (159). The city is spread over 174 square kilometers (160).

A recent community-based population survey reported a HIV seroprevalence level of 1.8% in Tamil Nadu; HIV seroprevalence was higher in rural areas (2.1%) than in urban areas (0.7%) (161). Another study reported HIV seroprevalence levels among individuals who attended health camps in both urban and rural areas of Tamil Nadu. In this study, HIV-1 seroprevalence in Tamil Nadu was reported at 7.2%, with seroprevalence levels of 7.4% and 7.0% in urban and rural areas, respectively (2). A hospital-based study in Chennai reported a 2% HIV seroprevalence level among patients attending the public hospital (162).

Institutional Setting

The study was conducted in collaboration with and under the institutional infrastructure of the Y. R. Gaitonde Centre for AIDS Research and Education (YRGCARE) in Chennai, India. YRGCARE is a non-governmental organization that has programs for HIV testing and counseling, care for HIV/AIDS patients, and HIV/AIDS research (2, 160). YRGCARE has a walk-in voluntary testing and counseling site that is located in a residential part of the city, to which approximately three to four people come daily for HIV testing and counseling. In addition, YRGCARE has a clinical ward where

approximately five to fifteen HIV-positive patients come daily for HIV-related inpatient and outpatient care and services. Several groups of people come to YRGCARE for HIV testing for HIV testing and counseling: 1) men who are at high risk, due to their sexual practices; 2) women whose husbands have been identified as either “high-risk” or HIV-positive; 3) the spouses of individuals who have already come to YRGCARE for HIV testing and counseling; 4) women who are routinely referred by their obstetricians and gynecologists from other institutions; 5) individuals who are referred by physicians suspecting possible percutaneous HIV exposure (via blood transfusion or injection); 6) individuals referred by physicians suspecting perinatal HIV transmission to infants; and 7) individuals who are symptomatic of AIDS-related opportunistic infections.

HIV testing and counseling services are provided on a walk-in basis. Anonymity is ensured by providing each client a unique number at the pre-test counseling session. The pre-test counseling session is an approximately one-hour-long interactive session that includes the following: 1) assessment of the client’s knowledge of HIV and risk factors; 2) provision of information about HIV/AIDS; 3) explanation of the meaning of the HIV test; 4) informed consent for testing; 5) and description of the client’s rights to reject testing, to confidentiality of test results, and to refuse disclosure of test results. Patients then undergo a blood draw (160). For married individuals, YRGCARE’s standard testing and counseling protocol involves suggesting that the individual invite his/her spouse to come to YRGCARE for HIV testing and counseling.

HIV test results and post-test counseling are offered within a few days after the blood draw. Test results are provided directly to the client in the context of a private, in-person post-test counseling session. The post-test counseling session includes an

explanation of the meaning of the test results (either positive or negative); a discussion of the benefits and drawbacks of disclosure of test results to the patient's relatives, friends, or co-workers; an exploration of risk behaviors and risk minimization for the patient and his/her sexual or injection drug use partner(s); and an evaluation of the need for medical management, if appropriate (160).

A recent study conducted at YRGCARE revealed that between 1994 and 1998, 51% of the individuals who sought testing and counseling services at YRGCARE were HIV-positive (160). Factors that were associated with HIV infection were: male sex, being 30-39 years of age, being married, less education, a history of sexually transmitted disease(s) or tuberculosis, and inconsistent condom use. Over the time period of that study, HIV seroprevalence among women declined from 70% in 1994 to 28% in 1998, although this decline partially reflects the one-time increase in antenatal clinic referrals (lower-risk women) in 1998. As discussed in Chapter 1, YRGCARE has developed a special research and programmatic concern for women at risk for HIV. They have conducted a few preliminary studies investigating some of the factors associated with HIV risk for married women (63, 64).

Study Design

The study consisted of two parts. First, in-depth, semi-structured interviews with key informants were conducted, in order to obtain information about the activities of non-governmental organizations (NGOs) in the areas of HIV/AIDS prevention, women's empowerment, violence prevention, and women's rights advocacy. These interviews were conducted in a private location, at the convenience of the person(s) interviewed. Interviews were conducted with representatives from: Positive Women's Network (five

women; Chennai); Tamil Nadu Women's Collective (one woman; Chennai); Indian Network of Positive People (one woman and two men; Chennai); Madras Christian Council for Social Services (one woman; Chennai); International Family Health (one man; Chennai); Initiatives: Women in Development (two women; Chennai); UNIFEM (one woman; New Delhi); Asha Kirana (two women and one man; Mysore, Karnataka); and the Swasthya Community Health Partnership (one woman; Sringeri, Karnataka). The semi-structured interview questions covered thematic areas such as: women's health, gender roles, sexuality in India, violence against women, and empowerment of women (Appendix 2). Notes from these interviews were entered into my thesis journal during and immediately after each interview.

Second, an epidemiologic cross-sectional study design was utilized to investigate the relationship between marital factors and risk of HIV infection among women. A questionnaire-based, face-to-face interview formed the basic structure of this part of the study. In addition to structured closed-ended questions, open-ended questions were asked in order to collect qualitative data as well. Details regarding the target population, sample size estimates, procedures, and data handling are described below.

Target Population

The participants invited to participate in this study were married individuals who came to YRGCARE for voluntary HIV testing and counseling. Inclusion criteria included: married individuals over the age of 18 who newly came to YRGCARE for voluntary HIV testing and counseling. Exclusion criteria included: widows, individuals under 18 years of age, and married couples who had previously sought HIV testing and

counseling at YRGCARE and who were already enrolled in YRGCARE's clinical care program at the time of the study.

Sample Size Estimates

A recent study done at YRGCARE of the steady partners of HIV-positive patients found that the HIV sero-concordance level was 66% (63). Information about the prevalence of sexual coercion, domestic violence, and sexual communication for the YRGCARE client population is lacking. However, it was possible to utilize results of studies conducted in other settings. As discussed in Chapter 2, the empirical studies of domestic violence have reported prevalence estimates ranging from approximately 20% to approximately 75%.

Based on these previously published results, the following parameters were utilized in performing the sample size calculations: $\alpha = 0.05$, $\beta = 0.2$, prevalence of exposure (domestic violence) = 20% to 50%, and prevalence of outcome (HIV sero-concordance) in the unexposed group = 30% (since the overall prevalence of HIV sero-concordance was expected to be about 50% to 70%). Based on the results of other studies that have examined the relationship between violence and HIV risk (44-46, 107-111), an odds ratio of 3.0 was used as an *a priori* prediction of the relationship between violence and risk of HIV infection for women in the study sample. Epi Info 6.04b software (Centers for Disease Control and Prevention, Atlanta) was used to perform sample size calculations (Table 5.1).

Given a prevalence of exposure of about 33%, the predicted sample size was 138 married couples. Assuming an enrollment rate of 67% (equivalent to multiplying by a "sampling in the field" factor of 1.5), the target sample size was 207 married couples.

Given that 242 married women (and their husbands) utilized YRGCARE's HIV testing and counseling services in 1998, and that the number of women utilizing YRGCARE's services had been increasing substantially between 1994 and 1998 (160), it was predicted that the target sample size would be attained within six to nine months in the 1999-2000 academic year.

Procedures

I was present at the study site from June 8, 1999, to August 5, 1999, and again from December 22, 1999, to January 14, 2000. While I was on-site, I engaged in the following activities: 1) I finalized the questionnaire; 2) I conducted training sessions for the interviewers; 3) I monitored and supervised the overall procedures of the study (recruitment, interviewing, data entry, laboratory testing); 4) I organized de-briefing sessions with the interviewers after each interview; 5) I conducted regular meetings with all of the interviewers, and other YRGCARE staff and administrative personnel; 6) I worked together with the accountant to streamline the financial arrangements; 7) I ensured proper communication between the interviewers and the administration of YRGCARE; 8) I entered data into the Epi Info software; and 9) I conducted the semi-structured interviews described above.

A consecutive sampling strategy of all married men and women seeking HIV testing and counseling services at YRGCARE between June 14, 1999, and January 11, 2000, was utilized. A YRGCARE staff person recruited subjects who fit the inclusion criteria (described above) at the pre-test counseling session. Individuals who fit the criteria were provided a verbal description of the study (Appendix 3), and were invited to participate in the study. A positive verbal response to this informational introduction was

considered a willingness to participate in the study. A waiver from the requirement for obtaining the written consent of the study participants was granted, since, in accordance with the standard protocol at YRGCARE, all of the questionnaires and HIV test results contained no names or identifying information. It was felt that it was in the individual's best interests and safety to not have a written record to identify the individual as a participant in the study. The study protocol was approved by the Committee for Protection of Human Subjects at the University of California, Berkeley. The Project Director and Project Manager of YRGCARE also gave their approval for the study procedures.

A questionnaire-based, face-to-face interview was conducted with each study participant. All interviews were conducted by interviewers who had extensive experience with HIV testing and counseling, and who underwent a series of training sessions that included discussions about the importance of issues such as: sensitivity, confidentiality, privacy, and an individual's right to terminate the interview at any time. There were eight total interviewers, four men and four women. All interviews took place in a private counseling room in either the YRGCARE walk-in testing/counseling site or the YRGCARE clinical ward. No one other than the trained interviewer and the study participant was present during the course of the interview, except in the occasional instance when I would be present. The questionnaire contained 78 items and covered the following areas of information: socio-demographic information, marital information, sexual behavior, violence, knowledge and gender-based attitudes, and previous HIV tests (Appendix 4). The questionnaire was developed in English and was translated at the time

of the interview into the preferred language of the study participant. Each interview lasted approximately 30 minutes.

The results of HIV tests that were conducted as part of the routine voluntary HIV testing and counseling services at YRGCARE were linked to the questionnaire data by a patient code number. HIV testing was performed using an enzyme-linked immunosorbent assay (ELISA) (Microlisa-HIV, J. Mithra Company, Mumbai), followed by a confirmatory Western blot (Sanofi Diagnostics Pasteur, France) for all ELISA-positive results. An individual was considered HIV-positive if both the ELISA and Western blot tests yielded positive results. All other HIV test result combinations (ELISA-negative; ELISA-positive but Western blot-negative) were defined as HIV-negative.

In accordance with YRGCARE's standard protocol with married individuals, each study participant was invited to invite his/her spouse to come to YRGCARE for HIV testing and counseling. The spouse was then invited to participate in the study, as described above. To reiterate, each individual within a couple was interviewed separately and privately. Individuals within a couple were linked by a couple code.

Data Handling and Analysis

Interviewers entered responses to questions (both quantitative and qualitative) directly onto questionnaire forms. The questionnaire forms were checked by me while I was on-site for completeness, appropriateness, and accuracy of responses. HIV test results were entered onto the appropriate questionnaire form (linked by the study participant's unique code number) by the laboratory technician.

The quantitative data were double-entered at the study site by two different people (one of the interviewers and me) using Epi Info 6.04b software (Centers for Disease Control and Prevention, Atlanta). The “double entry check” command was then used to ensure accuracy of the data entry (163). In addition, all data were checked for consistency and completeness. The qualitative data from the open-ended questions were entered using Microsoft Access 97 software (Microsoft Corporation, Seattle).

Quantitative data analysis was performed in the U.S. by me, using Stata 6.0 software (Stata Corporation, College Station, TX). Descriptive frequencies, bivariate analyses, comparison of proportions, and stratified analyses were performed (114, 127, 164). Crude odds ratios, stratified odds ratios, and adjusted odds ratios were calculated. The qualitative data were analyzed for common themes that emerged from people’s responses to the open-ended questions.

Chapter 6: Results

The 1999 data for the total number of married individuals utilizing YRGCARE's HIV testing and counseling services are not available, but using the 1998 data (160) yields an estimate of approximately 280 married individuals (men and women) coming to YRGCARE between June 14, 1999, and January 11, 2000. During this period, 172 married individuals were invited to participate in the study, yielding a recruitment rate of 61.4%, out of whom 164 (95.3%) enrolled in the study. The study sample consisted of 91 men and 73 women. These 164 individuals represented 98 distinct married couples: 66 "full" couples (data from both the husband and the wife were obtained), 25 couples for which only the husband's responses were obtained, and 7 couples for which only the wife's responses were obtained. This chapter summarizes both the qualitative and the quantitative data. The names and identifying information of the individuals are fabricated, in order to protect anonymity.

Socio-demographic Profile

Table 6.1 provides a summary of the socio-demographic characteristics of the study sample. The median age of the women was 24.5 years (sd = 5.6; range 18-40), and that of the men was 31.1 years (sd = 5.9; range 22-53). The majority of individuals had completed some secondary education; however, a substantial number of men and women reported no formal education. Most of the women were housewives by occupation, while the men were distributed among unskilled laborers, truck drivers, "white collar" workers, and other employment categories. Most of the women did not report any monthly income of their own, and over 90% of the income-earning women earned less than 1000 Rupees/month (less than \$25/month). In contrast, the median income of men was 1410

Rupees/month (approximately \$33/month), and the range of monthly income was zero to 50,000 Rupees/month (approximately \$1200/month). Household monthly income largely paralleled that of the husbands (data not shown).

The overwhelming majority of the individuals in this study identified themselves as Hindu; only one individual self-identified as Muslim and only five self-identified as Christian. Seventy-seven distinct caste identities were reported by the individuals in the study. These caste identities were categorized into five “caste categories” with the assistance of individuals who have lived and worked in south India (see Appendix 5 for a listing of the different caste identities in each “caste category”) (165-168). The largest number of people came from what is officially termed the “Backward Classes”—generally, people who do not own land or who work as “unskilled laborers.” Distinct Tamil-speaking and Telugu-speaking land-owning/merchant castes were represented in the dataset. Because the interviews were conducted in the language with which the individual was most comfortable, language of interview provided some information about regional and ethnic identity. A considerable number of individuals spoke Telugu, indicating either significant migration from the state of Andhra Pradesh to visit YRGCARE or substantial Telugu-speaking populations in Tamil Nadu.

As expected, women in this study reported a much younger age at marriage (median = 17.7 years, sd = 2.8, range 12-25) than men (median = 24.2 years, sd = 3.4, range 16-33). According to both men and women, arranged marriage appeared to be almost universal (Table 6.2). However, very few individuals cited parental pressure as a driving force behind marriage. Most couples had either one or two children, and approximately 10% of the women (either interviewed women or wives of the interviewed

men) were pregnant at the time of interview. Approximately the same proportion of men and women desired more children (35.2% vs. 32.9%), and this difference was not statistically significant (comparison of two proportions, $p = 0.696$) (114). Female sterilization was the most common form of birth control reported by both men (51.8%) and women (64.3%) who were using birth control at the time of the interview.

Gender-Related Attitudes

In order to provide a small window into the gender-based context within which actions and behaviors are carried out in a marital relationship, we asked both men and women for their opinions on a panel of gender-related statements. For most of the statements, men and women were generally in agreement with each other (Table 6.3). Engaging in extramarital sex, by either women or men, was almost universally considered unacceptable. The overwhelming majority of both men and women felt that limiting girls' access to food or education (relative to boys' access to these resources) was not acceptable. Interestingly, almost one-fourth of both men and women felt that it was appropriate for a man to hit his wife if she were disobedient.

There were, however, some notable disagreements between men's and women's responses. First, proportionately fewer women than men found it unacceptable for a man to force his wife to have sex even if she were to refuse (86.1% vs. 95.5%, p -value for comparison of two proportions = 0.04). Second, women were more likely to agree with the statement that men should control all household finances (37.5% vs. 30.0%, $p = 0.16$; not statistically significant). Third, nearly one-third of women responded "I do not know" to the statement as to whether or not a man should listen to his wife if she suggests using a condom, whereas only 13.5% responded "I do not know" to this statement. The

women's response of "I do not know" was associated with a lack of knowledge of what condoms are in general. Over 70% of women who responded "I do not know" to this statement stated that they did not know what condoms were. Fourth, a significantly higher proportion of men than women agreed that alcohol before sex often leads to violence (52.3% vs. 22.2%, $p < 0.001$). A substantial number of women responded "I do not know" to this statement, based on the fact that they had never been in a situation where either husband or wife had drunk alcohol prior to sex.

Overall, most "gender-discriminatory" situations were deemed unacceptable by a majority of both men and women (e.g. treatment of boys/girls, extramarital sex by either men/women). However, a considerable number of both men and women felt that violence against a woman was acceptable if she were disobedient. In addition, women rather than men were more likely to find "gender-discriminatory" situations (such as sexual coercion or male control of finances) acceptable.

Sexual Experiences and Sexual Behavior

Women's first sexual experiences

Women's first sexual experiences were almost universally in the context of marriage. Only two women reported having had sex before marriage, and both of them had had sex with their husband-to-be. In addition, these women were not fully in control of their bodies or their sexuality at the time of their first sexual encounter. Bhanumati's story is particularly illustrative of the generational and social control over her premarital sexual experiences:

My first sexual experience was with my husband before marriage. We know each other since childhood and he is my uncle. Both our parents decided to get us

married before the time I was born [...] My mother used to encourage me to go on outings with my husband before marriage, and that is how everyone knew that he is my "would-be." When I was 18 years old (still I had irregular periods), my mother told me that there was nothing wrong to have sex with her brother (my husband). By then, my husband started doing all foreplay with me. He used to visit our place once or twice every month, and I was encouraged to sleep with him (only to develop more love and affection before marriage) by my mother.

In Bhanumati's case, her mother had essentially "pre-ordained" how and when Bhanumati's first sexual experience would occur, thus stripping her of virtually any control over her body during this encounter.

When women spoke about their first sexual experiences, several themes emerged. These themes included fear, lack of knowledge about sex, coercion, the "duty" of marriage, lack of communication, and pain. Sheela's story about her first sexual experience illustrates the kind of fear that many women described:

My first sexual experience was with my husband after 3 days of our marriage because of some rituals and rites. And it's our culture. I was scared and timid because I didn't know anything about sex.

Sheela's story highlights the intersection between lack of sexual knowledge and fear of sex. She was afraid of sex because she did not know what sex was about. Sheela is actually more educated than her husband; she has attended secondary school while he has had no formal schooling. Yet, she "didn't know anything" about sex at the time of her marriage, leading to fear and timidity.

Coercion and lack of control were very much a part of many women's first sexual experiences. Malini's story highlights the intersection of sex and violence that was established from the very beginning of her relationship to her primary lifetime partner.

Before marriage, I had intercourse with my partner [...] I went to his native place. That time, he forced me to have sex with him. I didn't find any other alternative. Whenever I refused, he used to beat me. So I accepted [...] After I became six months pregnant, I married him.

Malini's story is quite tragic. Not only did she first experience sex as coercion, but she also had to deal with what was possibly an unwanted pregnancy at that time.

Furthermore, she "did not have any other alternative"—she was, in her view, helpless.

Likewise, many women, although they did not recall such explicit violence or coercion, still described a sense of helplessness, lack of control, and inevitability when they talked about their first sexual experiences. These emotional traumas sometimes manifested in somatic form, as in Sreedevi's case. She was 32 years old at the time of the interview, and very clearly remembered the circumstances of her first sexual experience with her husband almost one decade earlier:

I was too scared to have sex with him. I won't say that he forced me to have sex, but we had sex that night and the next day I got fever with shivering and for one week I was suffering. Though I liked him very much, it took me six months to adjust to that.

Even women who did not experience coercion during their first sexual experience used phrases such as "Only with my consent did we have sex," which leads me to believe that consent vs. coercion was an important part of these women's experiences. In other

words, coercion seemed to be “lurking invisibly” as an all-too-real possibility for women, making consensual sex something worth noting, remembering, and re-telling.

Husbands were not the exclusive perpetrators of coercion and force. As we saw in Bhanumati’s case above, her mother controlled the context of her sexual experience. Vijaya, an 18-year-old, poignantly describes the “violence” that characterizes many arranged marriages:

When I was 16 years old, my parents forced me to get married. I was not interested because I wanted to study more, but my parents did not allow me. So I got married because I did not have any other choice. My first sexual experience was with my husband. So I had to cope with him.

The forced marriage and arranged life partner were a “form of violence” in this case, as Vijaya’s rights to her body and to determine her future were violated (169). This violation of her rights was primarily committed by her parents, and perhaps secondarily by her husband.

Feelings of inevitability were also connected to a notion of “accepting, adjusting to, or coping with” what was perceived to be the “duty” of marriage. There appeared to be very little sense of questioning, negotiating, or discussing sex with their husbands.

Aparna recounted the following:

My first sexual experience was with my husband on the second night after my wedding ceremony. Religious rituals did not permit us to be together on the first night. It was my spouse who initiated my sexual activities and I had to cope with him, even though I had to experience a lot of pain during intercourse.

Aparna's experience is not unique. Many other women used phrases such as "I have to cope with him"; "after all, he is my husband"; and "no other choice," when explaining how they came to a resolution regarding what was generally perceived as an unpleasant or frightening experience. These apparent resolutions were situated in the context of descriptions of the duty of marriage, and drew upon putative "wifely roles" such as sacrifice, service, and accommodation.

In some instances, the result of coping and adjusting to unpleasant and difficult experiences was a lack of communication about sex with one's husband. Discussing or negotiating sex did not appear to be a viable option for several women. As Padma, a 22-year-old housewife, explained:

I didn't know anything about sexual intercourse. Only after marriage did I come to know about that. My first sexual experience was with my husband after 3 days of marriage. I was a little nervous. It was a really painful night. I couldn't express my pains to him because I have to cope with him.

Similar to Padma's experience, several women felt hesitant to discuss with their husbands the pain they felt during sex. In addition, other women refrained from expressing their fear, discomfort, or ignorance of sex to their husbands. In general, I was left with the impression that sex was largely not a locus of conversation, discussion, or negotiation, between husband and wife.

For many women, their first sexual experience was a painful, not pleasant, experience. For Devi, who was married when she was 16, the pain was still quite vivid 10 years later:

I felt very uncomfortable and it was a really painful day. I had so much pain in my vagina, but I couldn't tell my problem to him.

Significantly, only one woman in this study sample expressed what seemed close to a sense of pleasure during her first sexual experience. Sujatha, who was married at the age of 15, recounted the following:

My first night happened after three days of my marriage. I liked him very much because he lived in the same village. So I didn't have any problems, and everything went on well.

Several women expressed a sense of "everything went on well after a few months."

Although this could perhaps be a veiled description of sexual pleasure, it also felt like an expression of having become accustomed to an activity that was perhaps initially unpleasant but no longer so. However, it seems obvious that the absence of unpleasantness is not equivalent to the experience of pleasure.

In summary, women's stories about their first sexual experiences highlighted the following themes: fear of sex, lack of knowledge about sex, sexual coercion, the "duty" of marriage, lack of sexual communication with husbands, and sex as pain not pleasure. Although the data do not allow for a definitive conclusion, it is plausible that a woman's first sexual experiences in marriage establish a foundation for subsequent sexual activity with her husband. Thus, these same features listed above may well characterize the nature of sexual activity later in marriage.

Men's first sexual experiences

In contrast to the women, the overwhelming majority of men (86.5%) had experienced sex before marriage. Men reported having had their first sexual experience

with either a commercial sex worker, an older woman who lived nearby, a woman who “worked in the same field,” or their wife-to-be. Usually, these premarital sexual experiences did not involve safe sex: only 5.1% of the men always used condoms during these sexual encounters, and 62.3% of the men never used condoms.

Several themes emerged from analyzing the men’s stories: sex as pleasure, sex as proof of masculinity, and peer pressure. Many men commented about how pleasurable their first sexual experiences were, and how their sexual activity satisfied an intense sexual desire and curiosity. Vinayak, who was 18 years old at the time of his first sexual encounter, described his experiences thus:

I was working in the fields at that time. I was attracted to girls, and everyday I needed to have sex. I become very weak when I see girls. I thought that sex was the only aim in my life. So many girls had sex with me ...

Other men expressed a curiosity about sex, and a need to satisfy that curiosity, which generally resulted in a visit to a commercial sex worker. As Prakash explains:

I am a truck driver. I had my first sexual experience when I was 20. I had been invited for sex by very pretty girls who sell their bodies for money. I had sex with them only out of curiosity and temptation. There have been instances when I used condoms and other instances when I did not use condoms with them.

Older women (usually with children) were often young men’s first sexual partners. These older women provided a “sexual education” of sorts to the men. Sometimes, this took the form of the older woman “forcing” the younger man to have sex. Mahesh’s story makes a veiled reference to this type of complicated sexual dynamic:

When I was 17 years old, an elderly woman who is a family friend involved me in sex. At that time, I was totally ignorant about sex and without knowing what it was, I had sex with her.

Thus, while a lack of sexual knowledge also appears to exist for young, adolescent men, they circumvent this problem by engaging in premarital sex (in a setting over which they exert at least some control), an option that is not available for most women.

The second theme that emerged was that being sexually active was proof of one's "masculinity" or ability to live up to the "male mystique." Indirect references were made to a notion of "what it is to be a man," and the pressures that this notion of masculinity places on adolescent boys and men in Indian society. Peer pressure was described as a way in which the specifically sexual aspect of masculinity was reinforced. This peer pressure could take several forms: force, suasion, poking fun, insults, taunts, and references to "un-manliness." Naveen's story is reflective of what several men described:

When I was in the 10th standard, my friends used to go to the lodge. I didn't know why they went, but once I went with them because my friends forced me to go with them. There I saw so many girls, and my friends forced me to have sex. At first, I hesitated, but then I went and had sex ...

Oftentimes, the peer pressure occurred in a way that was not totally comfortable to the young man in question. The pressures, stresses, and constraints on men were not always desired, but rather endured. In addition, several men expressed a sense of "shame" or "guilt" for having succumbed to peer pressure or having attempted to subscribe to a notion of masculinity as "sexually fit," which they interpreted as ultimately

having placed them and their wives at increased risk of HIV infection. Chandra, a 33-year-old truck driver, expressed an intense sense of regret upon reflection of his first sexual experience:

I was in Vellore when I had my first sexual experience with a prostitute. I was very curious to have sex. Out of peer pressure by my own friends, and when the opportunity arrived, I had sex. But now I am really ashamed of my gesture.

Indeed, societally proscribed notions of the “male mystique” appear to have manifested in concrete forms such as peer pressure, individual aspirations of demonstrating sexual fitness, and near-universal premarital sex (often unsafe), all of which could put these men at increased risk of HIV infection. In addition, they set the stage for the nature of subsequent sexual relations within marriage, and insidiously place the wives as well at increased risk of HIV.

Sexual relations within marriage

A considerable proportion of individuals reported never having had sex within marriage in the three months prior to the interview, while a smaller, yet substantial, number of individuals reported having sex at least weekly (Table 6.4). Almost all of the men (88.9%) and women (82.2%) were of the opinion that husbands initiated sex either all the time or most of the time. While nearly all of the men and women were in agreement with respect to practicing only vaginal sex and not anal sex, more than twice as many men as women reported engaging in oral sex (29.2% vs. 13.7%, comparison of two proportions $p = 0.018$).

Sexual coercion within marriage was fairly prevalent. Of the 32 men who reported that their wives had refused sex at some point in time, 18 (56.2%) admitted to

forcing their wives to have sex despite the refusal. Eight of the 32 men (25%) had forced their wives to have sex in the three months prior to the interview. In addition, of the 13 women who reported ever having been forced to have sex against their will, 12 (92.3%) noted that their husbands were the perpetrators of the sexual coercion. As discussed above, sexual coercion (both explicit and veiled) was part of many women's first sexual experiences after marriage. In many cases, this pattern of sexual coercion continued into the later years of marriage. Rani, who had been married for three years, expressed feelings of helplessness and fateful acceptance with regard to her experiences of sexual coercion within marriage:

I do not know, but sometimes I used to have abdominal pain, and I really didn't feel like having sex. But what to do ... After all, he is my husband. I was forced to cope with it ...

For several women, sexual coercion is a frightening reality that starts with "the first night" after marriage and continues well into their married lives.

Husband's alcohol use and sex were associated in many instances. Among those who had had sex within marriage in the three months prior to the interview, nearly 30% of the men admitted to having drunk alcohol before sex with their wives. This figure corresponded relatively well to the women's responses; nearly 25% of the women reported that their husbands drank alcohol prior to sex at least some of the time.

Reported condom use within marriage was quite low; only 31.5% of the women and 34.4% of the men reported ever having used condoms within marriage (Table 6.5). When asked why they never used condoms, the most common responses were "did not think about it" (34.5% of women and 56.4% of men), "did not know what condom was"

(43.6% of women and 18.2% of men), and “desire for children” (10.9% of women and 21.8% of men). Interestingly, not one individual stated that s/he was unable to afford condoms; thus, the low use of condoms is not an issue of lack of financial access.

Among the few individuals who reported having used condoms in the three months prior to the interview (8 women and 13 men), preventing pregnancy (25% of women and 46.2% of men) and preventing infection (87.5% of women and 61.5% of men) were the most common reasons cited. Among those who had used condoms to “prevent infection,” HIV was the infection of concern.

In addition to infrequent condom use within marriage, discussion of condom use within marriage was not common. A much lower proportion of women felt comfortable discussing condom use with their spouses than did men. Just over one-fourth of the women felt comfortable discussing condom use within marriage, whereas almost half of the men felt comfortable ($p = 0.009$). For both men and women, there was a strong association between feeling comfortable discussing condoms and actually having discussed condoms within marriage (Figure 6.1). Discussion of condom use was much less likely among those who did not feel comfortable discussing condom use with their spouse (OR = 0.019 (0.0017, 0.21) for women; OR = 0.036 (0.0051, 0.24) for men). Finally, very few individuals (either men or women) reported ever having wanted to use a condom, but having been forced to have sex without a condom.

Sex outside of marriage

Men’s and women’s sexual experiences outside of marriage were very different. Only two women reported having had extramarital sex, while nearly half (48.9%) of the men reported having had sexual relations outside of marriage. The two women who

reported sex outside of marriage were the only women in the study sample who reported having more than one lifetime sexual partner. Of these two women, one of the women had been the victim of rape. In Parvati's own words:

I was raped countless times by a close friend of my husband. He kissed me if I was quiet and beat me if I resisted. Please don't tell my husband.

The sexual abuse and rape that Parvati experienced traumatized her for years. She had been married for 20 years at the time of the interview, yet was fearful of sharing her painful experiences with her husband.

Of the 44 men who reported extramarital sexual experiences, more than two-thirds (68.1%) reported never using condoms during those episodes. The most common reasons cited for never using condoms were: "did not think about it" (60%), "did not know what a condom was" (23.3%), "decreased sexual pleasure" (20%), "sexual partner is 'safe'" (20%), and "feeling embarrassed" (16.7%). Only six men reported having one lifetime sexual partner. The median number of total lifetime sexual partners for men was 5.7 partners (range 1-5000).

Both men and women denied sexual activity with individuals of the same sex. Only one man reported having sex with a hijra (English definitions of hijra vary from "a castrated man" to "a homosexual man who takes on a female persona" to "a hermaphrodite"; however, in India, hijra is generally viewed as an institutionalized "third gender" (43, 170)), but no men reported having sex with other men.

Domestic Violence

Descriptive Summary

Indicators of physical, psychological, and emotional violence were quantified. Domestic violence was fairly common in this study sample (Table 6.6). In all but one category, more women than men reported having experienced violence. Almost 29% of women reported having experienced physical violence during marriage; in contrast, only 4.4% of men reported having experienced physical violence. Of the women who reported having experienced violence, 19.0% reported that violence occurred on at least a monthly basis; 47.6% said that they had been hit or slapped only “rarely”; and 33.3% said that they had experienced physical violence only once during marriage. Interestingly, 37.8% of the men admitted to having hit or slapped their wives. Thus, men were more likely to have reported wife abuse than were the women.

Several themes emerged from individuals’ descriptions of violent experiences within marriage. These themes included: sexual coercion, poverty, male anxiety, obedience of the wife, alcohol, and the involvement of parents-in-law. Poverty was highlighted by several individuals as being part of the causal pathway that triggered conflict and violence between husband and wife. Malini, whose story of sexual coercion before marriage was discussed above, has had to deal with violence on an almost daily basis. Both she and her husband were unemployed at the time of the interview, with three small children, and literally nowhere to turn. The poverty that she chronically confronted led to unending tension between herself and her husband, which created a short fuse for violence to erupt:

If I scold him for not going for a job, he would hit me. If I had any misunderstanding with my in-laws, he used to slap me. Whenever I refuse to have sex with him, he hits me.

Poverty and unemployment can place incredible psychological pressures upon a man, due to socially prescribed notions of “masculinity” that view the man as the “provider” for the household. These psychological pressures, in turn, can lead to situations in which violence is triggered by apparently benign circumstances.

Unemployment is not the only situation in which a man’s claim to masculinity is threatened. In fact, any threat (either real or perceived) to a man’s role as “provider” for the household presents a challenge to the “male mystique” that was discussed above. Examples of potential threats include a wife going outside of the home to work and earn income for the family, or a wife complaining about a man’s ability to earn enough income. In the case of Shankar, a businessman, his wife’s complaints about his incapacity to provide adequate income were perceived as a threat to that notion of masculinity and male power:

She used to blame and insult me in front of others, that I was not providing for the household needs. I used to get irritated whenever she talked ill about me while others were sitting there. So I hit her.

In this instance, what was at stake was not the actual amount of income. Rather, it was a “perceived” inadequacy of that income by the woman, and an enhanced sensitivity to that perception by the man.

Obedience was another theme that emerged from individuals’ stories of violence within marriage. As noted above, almost one-fourth of the respondents (both men and

women) felt that it was acceptable for a man to hit his wife if she were “disobedient.”

Ravi, a 28-year-old truck driver, was very blunt about the issue:

Yes, very often I used to beat her. Whatever I say, she has to listen to me.

Otherwise, I hit her.

Several other men echoed Ravi’s sentiments.

Alcohol was connected to violence in several instances. Women recalled that men would stay out drinking until late at night, and that this would lead to conflict. As Sandhya described:

Everyday, he drinks alcohol and comes home very late. So I used to scold him and ask, “Why are you so late?” Then he would hit me hard and say, “You are suspecting me. One day it’s going to happen. I’ll go to some other lady.”

In other cases, an image was constructed of the man who had lost control, who became angry at illogical things, and who resorted to violence for small issues. Apparently meaningless incidents, such as food tasting different, keys being left in a different location, or “talking too much,” would provoke episodes of physical and verbal abuse.

Extended family members were often involved in violence between the husband and the wife. In particular, mothers-in-law were implicated as either directly inflicting violence upon the younger wives, or instigating conflict and violence between husband and wife. In some cases, dowry-related issues were the deep-seated, underlying critical elements in these conflicts. Shylaja, who was married at the age of 14 to her cousin, recalled:

My in-laws are not satisfied with the dowry. So very often, my mother-in-law makes comments about that, and my mother-in-law and I fight with each other. My husband always supports his mother and hits me for that.

In addition to the involvement of in-laws in violence, several individuals (both men and women) described situations in which a woman's desire to return to her native family home for a visit was met, not with encouragement or acceptance, but rather with forbiddance and violence.

In addition to physical violence, psychological/emotional violence was measured. Two of the parameters of psychological violence were having experienced threats of violence and expressing fear of violence. Slightly more than 30% of the women reported having experienced threats of physical violence; in addition, 8.2% had received threats of abandonment. Fifteen percent said that they were afraid of physical violence in their homes. Psychological violence related to sex was also significant. A considerable proportion of women (27.4%) felt that they thought their husbands had gone outside of marriage for sexual activity, and another 17.8% did not know. In addition, 15.1% of women said that their husbands had at some point in time become angry about sex and then not spoken to them.

Although not many individuals reported having been insulted by their spouses, the few who did so remembered those instances quite vividly. Gayatri, a 20-year-old woman who had been married for just about one year, described the pain that she felt when her work and contributions were not acknowledged and when, in addition, she was the target of stinging remarks:

I used to work before. When I got married, I had to cook for my in-laws in the mornings, and then go to work, and then cook for them in the evenings also. One day, around 10PM, I was feeling tired and sleepy. After seeing this, my husband went and complained to his sister, and she said, "She's brought up in that way. We can't help it." It hurt me so badly.

The pain from such psychological violence often left bruises that remained for much longer than those resulting from physical violence.

Proportionately more men than women claimed that their spouses had threatened them with abandonment. When women threatened abandonment, they sometimes threatened to go to their native family's house. Nikhil, a 35-year-old native of Sri Lanka, admitted that he often beats his wife after drinking alcohol. He also said that he sometimes hits his children as they go to school. In response to this violence, his wife had threatened on more than one occasion that she would leave and go to her brother's house.

Association among the various violence variables

Among women, there was a significant association between the physical violence variable (Have you ever been hit/slapped by your husband?) and other forms of violence (Table 6.7). In all cases except for the sexual coercion-physical violence association, the crude odds ratio was greater than one. Although in some instances, the result was not statistically significant, this could be the result of the small sample size. The odds ratio for the association between actual experiences of physical violence and threats of physical violence was 4.1. In addition, the odds ratio for the association between fear of abandonment and experiences of physical violence was 12.0, with a very wide confidence

interval (due to small sample size). The odds ratio between threats of extramarital sex and physical violence was 8.3. Thus, overall, there was considerable association among measures of physical, psychological, and emotional violence. The one notable exception to this trend was the lack of any association between physical violence and sexual coercion. A composite variable was created, to enumerate any form of violence (physical, sexual, psychological, or emotional (Table 6.6)) that a woman had experienced during her marriage. 65.8% of women reported that they had experienced at least one form of violence during marriage.

Bivariate analysis of factors associated with physical violence against wives

Bivariate analysis of socio-demographic marital factors and physical violence yielded several notable associations (Table 6.8). Although none of the caste categories were individually statistically significant, the confidence intervals were very wide, indicating that perhaps some relationship existed between reporting of domestic violence and caste status. The Tamil and Telugu Land-owning/Merchant castes were combined (n=26) and all of the other caste categories (“Backward Classes”, Scheduled Castes/Scheduled Tribes, and “Other castes”) were combined (n=44) into separate groups, and the bivariate analysis was conducted again. Within this sub-analysis, significant differences emerged between the two groups. Only 7.7% of the Land-owning/Merchant caste women reported having experienced physical violence, while 43.2% of the other women reported physical violence (OR = 9.1 (1.7, 49.7)). Thus, it appears that Land-owning/Merchant caste women are less likely to report incidents of physical violence than women from other castes. Whether or not this reflects actual differences in experiences of violence is not discernible from these data.

As a woman's education increased, the risk of physical violence decreased (chi-squared test for trend of odds was significant, $p=0.02$). While the woman's employment status (housewife vs. employed) did not appear to affect the risk of domestic violence, the husband's employment category appeared to have some association with reporting of violence. Compared to "White Collar" workers, all other husband's employment categories were associated with an increased risk of violence. Although none of the individual associations were statistically significant, the chi-squared test for trend of odds was close to statistically significant ($p=0.053$). While the *level* of household monthly income was not associated with the reporting of domestic violence, a *sense of dissatisfaction* with the contribution of the husband to household resources ("My husband does not provide adequately to the household income") was associated with increased risk of domestic violence. Women who felt satisfied with their husbands' contribution to household resources were about three times less likely to report violence than women who felt that their husbands' contribution was inadequate (OR = 0.3 (0.1, 1.1)). This relationship was maintained (but not significant at the 5% significance level) after stratifying across household monthly income levels (household monthly income up to Rs. 1500/month: OR = 0.4 (0.04, 3.9); household monthly income greater than Rs. 1500/month: OR = 0.3 (0.04, 2.1)).

There was a striking a relationship between women's age at marriage and reports of physical violence. Women who were married at a younger age were much more likely to have experienced domestic violence (OR = 0.4 (0.1, 1.1); although not statistically significant, this may be attributable to small sample size. In addition, women with more children were more likely to have reported violence than women with fewer children

(chi-squared test for trend of odds was significant, $p=0.02$). Finally, attitudes towards, and acceptance of, domestic violence did not appear to be associated with actual experiences of violence. Women who felt it was unacceptable for a man to beat his wife for reasons of obedience were just as likely to have reported experiencing violence as were women who felt that it was acceptable for domestic violence to occur in certain situations (28.0% vs. 33.3%).

Marital factors related to sexual activity were also associated with domestic violence, according to the women (Table 6.9). Although the association was not statistically significant, there appeared to be a trend between increasing frequency of sex in the 3 months prior to the interview and increasing risk of domestic violence. There did not appear to be an association between husband's intake of alcohol before sex and violence. The association between the condom use variables and violence was interesting. Although none of the associations were statistically significant, the patterns were notable nonetheless: women who had experienced violence were less likely to have ever used condoms with their husbands, less likely to have discussed condom use with their husbands, and less likely to feel comfortable discussing condom use with their husbands.

Bivariate analysis of men's reports of wife abuse

As noted above, nearly 40% of men admitted to having hit or slapped their wives. A bivariate analysis of men's responses was performed, yielding some interesting differences from the previous analysis conducted with the women's responses (Table 6.10). First, caste status did not appear to have any association with men's report of wife abuse, in contrast to the women. When the Tamil and Telugu land-owning/merchant

caste men were grouped together in comparison to men from other castes, there was no significant difference in the proportion of men who had beaten their wives (36.1% vs. 38.5%; OR = 1.1 (0.4, 2.7)).

Men who had completed at least some secondary level education were much less likely to inflict violence on their wives than men who had completed only primary level education. Interestingly, however, there was no difference in self-reported wife abuse between men with secondary level education and men with no formal education whatsoever. Similar to the women's responses, men who were truck drivers were more likely to have reported wife abuse than men with other occupations. On the other hand, neither wife's occupation nor household monthly income was associated with men's reports of wife abuse. As was observed for the women, younger age at marriage and greater number of children were associated with increased wife abuse. In contrast to the women, however, a belief that it was acceptable for a man to hit his "disobedient" wife was associated with increased frequency of reported instances of wife abuse (OR = 2.0 (0.7, 5.7)).

The relationships between men's reports of physical violence and men's sexual experiences/behavior were, in general, strikingly different from those for the women (Table 6.11). Although violence seemed to be positively correlated with frequency of sex, this relationship was statistically significant (and stronger in magnitude) only for the men who had sex "less than weekly," and not for men who reported sex "at least weekly." The relationship between violence and condom use in marriage was especially remarkable, in comparison to the women's responses. Men who admitted hitting their wives were more likely to have used condoms and were more comfortable discussing

condoms with their wives; in addition, discussion of condom use was not significantly different across the two groups of men (violent vs. non-violent). Violence was positively associated with having coerced one's wife to have sex; although this result was not statistically significant, this finding should not be discounted. Both premarital sex and extramarital sex were weakly associated with higher risk of violence against wives. Finally, there was no clear relationship between number of lifetime sexual partners and domestic violence.

Intra-Couple Reliability of Responses

As has been noted above, there was a considerable amount of discrepancy between the men's and women's responses, at several different levels. First, there were discrepancies at the level of reporting experiences. For instance, while about 30% of women reported having experienced violence, nearly 40% of the men reported having inflicted violence. Second, the bivariate relationships between certain variables were different for men versus women. For example, the relationship between caste status and reporting violence was significant for women, but not so for men.

An indirect method of measuring "intra-couple reliability" was to calculate the amount of discrepancy between men and women representing married couples. In order to determine the level of discrepancy between men and women, the "percent agreement" was calculated for a select group of variables, by creating 2x2 tables comparing men's and women's responses to different questions (Figure 6.2). The variables were split into two groups: "sensitive" variables (dealing with issues such as sex and violence), and "non-sensitive" variables (dealing with issues such as occupation and income) (Table 6.12). The average percent agreement for the "non-sensitive" variables was 83.2% (sd =

8.8), while the average percent agreement for the “sensitive” variables was 72.5% (sd = 11.8). The two sets of variables differed from each other with respect to percent agreement between couples, and the difference was statistically significant (t-test for comparison of two means with unequal variances, $df=17$, $t = 2.323$, $p<0.05$). Thus, it appears as if there is a substantial amount of discrepancy (and, hence, less reliability) for the “sensitive” variables related to sex and violence, and that this discrepancy is greater than the “background noise” of discrepancy that exists even for the “non-sensitive” variables. Implications for the validity of self-reported sexual and violence history are discussed in the “Discussion” chapter.

HIV Status

Overall summary

The ultimate endpoint of interest in this study was HIV status of the individual. Of the 91 men, 87 (95.6%) were HIV-positive. HIV data were available for 72 of the 73 women, and 53 (73.6%) were HIV-positive. Of the 66 full couples enrolled in the study, HIV data were available for 65 couples. The sero-concordance/sero-discordance status of these couples is shown in Table 6.13. Only one couple was sero-concordant HIV-negative, and two couples were sero-discordant with a HIV-positive wife and a HIV-negative husband. For the remainder of the couples ($n=62$), the husband was HIV-positive. Of these couples, 25.8% were sero-discordant (HIV-negative wife) and 74.2% were sero-concordant (HIV-positive wife). The following analysis will be limited to these 62 couples, because the primary objective of the study was to ascertain factors that increase a woman’s risk of contracting HIV from her husband.

Bivariate analysis of factors related to women's HIV status

Bivariate analysis of socio-demographic factors and women's HIV status yielded a few significant and interesting associations (Table 6.14). Women in the 24- to 28-year age group were the most likely to be HIV-positive. Interestingly, there was a strong association between a woman's caste status and her HIV status (land-owning/merchant caste women were more likely to be HIV-positive), but this association was much weaker when the husband's caste status was analyzed. There were no other consistent or significant associations between socio-demographic factors and women's HIV status, except that wives of truck drivers were more likely to be HIV-positive than other women.

Bivariate analysis of sexual behavior variables and women's HIV status yielded some interesting relationships (Table 6.15). Although the association was not statistically significant, there did appear to be a trend towards higher risk of HIV infection as frequency of sex during the three months prior to the interview increased. This trend was weaker when the male responses were cross-tabulated with women's HIV status. Condom use, discussion of condom use, and comfort discussing condom use, were all associated with lower risk of HIV infection for the women, although the associations were not statistically significant. If a man reported having engaged in premarital sex, his wife was at considerably greater risk of HIV than was the wife of a man who had not had premarital sexual experiences. The same trend was true for men who reported having had extramarital sex, but the association was weaker. An interesting and perplexing finding was that as the number of a husband's sexual partners increased, the risk of HIV infection for the wife decreased. Although none of the individual odds ratios were

statistically significant, and the chi-squared test for trend of odds was not significant ($p = 0.16$), this finding was particularly notable and difficult to explain.

When the relationship between violence and women's HIV status was examined, another surprising result was generated (Table 6.16). Contrary to what was expected, women who reported having experienced violence were less likely to be HIV-positive; this association was both strong and statistically significant (OR = 0.24 (0.07, 0.87)). In contrast, when men's reports of hitting their wives were cross-tabulated with women's HIV status, there was essentially no association between violence and risk of HIV for the women. Other forms of violence were not significantly associated with risk of HIV infection. Another interesting finding was that if men reported having forced their wives to have sex, the women were more likely to be HIV-positive, whereas there was no association between sexual coercion and HIV status based on the women's reports.

Stratified analysis of violence-HIV relationship

In order to explain the unexpected and paradoxical violence-HIV association described above, selected stratified analyses were performed to explore whether other variables were influencing the relationship between domestic violence and women's HIV status (Table 6.17). The violence-HIV crude odds ratio appeared to change when adjusted for caste identity (crude OR = 0.22 vs. adjusted OR = 0.34); in addition, the stratified estimates of the odds ratio appeared to be different from the Mantel-Haenszel adjusted estimate. Thus, caste identity appeared to be both a confounder and an effect modifier of the violence-HIV relationship, although definitive conclusions cannot be drawn due to small sample size and wide confidence intervals. The impact of possible reporting bias was approached by dividing the dataset into couples with discrepant and

concordant responses to the physical violence (wife abuse) question, and examining the violence-HIV relationship within these two distinct groups. There was no evidence for confounding. Unfortunately, due to zero-values in one of the stratified 2x2 tables, it was not possible to assess whether or not effect modification was present. Finally, the impact of previous HIV testing on the violence-HIV relationship was examined. Again, due to zero-values in one of the stratified 2x2 tables, it was not possible to investigate fully the presence of confounding or effect modification. However, the stratified odds ratios supported the hypothesis that there may be confounding or effect modification by this variable.

Chapter 7: Discussion

Sex in the Indian Context

The results of this study reveal quite striking differences between men's and women's sexual experiences in south India. While a majority of men reported having had premarital sexual experiences, only two women reported having had sex before marriage, and in both instances it was with their respective husband-to-be. These results are consistent with studies conducted in other locations with different population subgroups (40, 43, 80, 171).

Another striking result was that, in general, men controlled the dynamics of sex within marriage. This pattern of male control was established at the onset of marriage, and continued throughout married life. Lack of knowledge about sex among the women led to fear of sex and fear of the unknown. This pattern has been noted among poor women in Mumbai (80, 171). In fact, it has been argued that women's lack of sexual knowledge in India is "part of the patriarchal design to keep women out of touch with their bodies and sexuality" (71, p. 327). Because women's lack of sexual knowledge contributes to the feeling of "shame at their bodies" (71, p. 327), and because many in the women's movement believe that shame is critical to the establishment of patriarchy and control over women's sexuality (see Chapter 2), several feminist organizations have attempted to "reclaim" the self and the woman's body by engaging in activities that teach women about their bodies, sexuality, and health.

In addition, many women expressed a feeling of inevitability or lack of control over sex, even in the absence of outright experiences of sexual coercion, while discussing their first sexual experiences. The sense of "inevitability" was related to a notion of "the

duty of marriage,” or a woman’s role within marriage. In general, women felt that they should refrain from expressing their fears, discomforts, ignorance, or pain, because “after all, he is my husband, and I have to cope with him.” Women invoked “wifely roles,” such as sacrifice, endurance, service, and accommodation, to explain their lack of control over this arena of their lives.

Lack of sexual communication was also a common theme when women spoke about their first sexual experiences, and again appeared to be related to women’s notions of “wifely roles” and the subsequent expectation of refraining from expressing fears, pain, or discomforts. Discussion of condom use within marriage can be used as a rough proxy for sexual communication. The relatively low level of discussion about condom use (approximately 30%; see table 6.5) indicates that sex was largely not a locus of conversation, discussion, or negotiation between husband and wife. The widespread lack of communication about sex is particularly concerning in the context of the HIV/AIDS epidemic, because effective communication is viewed as a prerequisite for successful AIDS prevention programs based on behavioral modification strategies (28).

The overwhelming male control over sex remained later in marriage in that, in most cases, men (and not women) generally initiated sex. In addition, sexual coercion and marital rape were quite common. Over 50% of men admitted to forcing their wives to have sex after they had refused, and about 20% of women reported having been forced to have sex by their husbands. Although most individuals felt that sexual coercion and marital rape were unacceptable, significantly fewer women than men felt this way (Table 6.3). Thus, proportionately more women than men felt that it was OK for a man to force his wife to have sex. Thus, in a context where marital rape is felt to be acceptable, even

by a minority, it is not altogether surprising that the prevalence of marital rape is fairly high.

Reported condom use within marriage was quite low, with just over 30% of individuals reporting ever using condoms within marriage. A previous study conducted by YRGCARE found that 11% of wives of HIV-positive men reported always using a condom during sexual relations, but that none of the serodiscordant couples reported consistent condom use (63). Thus, reported condom use, while low, is higher in the present study than in past studies among similar population groups.

The prevailing patterns of extramarital sex largely mirrored those of premarital sex: again, only two women reported having sex outside of marriage (one of these women was raped), while nearly 50% of men reported having extramarital sexual relations. Despite a near-universal disapproval of extramarital sex for both men and women (over 94% of men and women felt that extramarital sexual relations were unacceptable, for either men or women), nearly half of the men were able to “get away with it.” Somewhat lower levels (about 25%) of men engaging in extramarital sex were reported from a recent study in Uttar Pradesh (47). It has been argued that sex outside of marriage is almost “expected” for men (40), while others claim that the power and freedom that men enjoy in a patriarchal society are critical to the higher prevalence of extramarital sex among men than women (43).

Before concluding too quickly, however, that women do not engage in extramarital sex in south India, it is important to consider the potential discrepancy between “reported” and “actual” sexual experiences. Sheelu Francis, one of the leaders of the Tamil Nadu Women’s Collective, recounted to me that at the end of a recent three-

day all-women's workshop, women began to feel comfortable and safe while discussing their sexual experiences. Nearly 50% of those women reported having had extramarital sexual relationships (172). It could very well be the case that the women in our study were not comfortable disclosing such information in the context of a thirty-minute interview, whereas they might have felt more comfortable sharing sensitive information with people with whom they had developed a relationship characterized by safety and trust.

Marital rape, male control over the terms of sex, women's tendency to "cope" with perceived marital "duties" and "roles," and lack of sexual communication between husband and wife are all disturbing characteristics of the marital sexual relationship that can increase a woman's vulnerability to HIV infection. AIDS prevention strategies that rely upon effective communication between partners and sexual negotiation (for instance, concerning condom use) must be sensitive to the constraints that south Indian women may face as a result of their daily sexual lives within marriage.

Masculinity: Pleasures and Pressures

The preceding chapter briefly touched upon the issue of "masculinity," and I would like to explore that concept a bit further in this section before proceeding with the rest of the discussion. Masculinity can be conveniently described as "widely held perceptions as to how men should behave" (38, p. 14). As such, masculinity generally includes expectations that men should be physically strong and emotionally stable; should have frequent sexual intercourse before and during marriage, often with more than one partner; and should be the economic "providers" of the household. While masculinity can confer certain freedoms and pleasures on men, those same "privileges"

can impose pressures and burdens that many men actually do not enjoy or welcome. This double-edged nature of masculinity arose quite frequently in this study, in three intersecting areas: male virility, male anxiety about providing adequately to the household income, and physical domestic violence against women.

The sexual component of masculinity is virility, and Indian men may face expectations to “prove their sexual prowess” by engaging in premarital sex (38). Peer pressure is one way in which these expectations are reinforced. In this study, several forms of peer pressure were described by men: force, suasion, ridicule, insults, taunts, and references to “un-manliness.” Oftentimes, the peer pressure occurred in a way that made the man in question uncomfortable. The pressures, stresses, and constraints on men were not always desired, but rather endured. Men felt a need to live up to the “male mystique,” in order to gain acceptance from their peers and friends. As Geetha explains, a man’s sense of sexual worth often is derived from the relationships he develops with other men: “Men do look for approval from others of their sex and their masculine performative powers are often defined in the context of taunts, challenges and contests among male friends” (82, p. 319). In fact, a man’s sense of identity is significantly influenced by his relationships with other men. Thus, while the pressure to conform to the male mystique is not always welcomed, the resulting behaviors and the attitudes that accompany them can become normalized and internalized. In addition, the cycle can be perpetuated: today’s adolescent boys exert pressure tomorrow on their other friends or men of future generations.

Gender-based division of labor, while it has been diminishing in recent years, was still highly characteristic of the study sample, with a majority of women reporting their

occupation as “housewife” while almost all men engaged in income-earning work. In India, it is widely believed that men are expected to work outside the home and bring home wages (80). In our sample, this expectation was borne out; in addition, about 50% of the individuals felt that men should control all household finances. Thus, the economic component of masculinity—the man should be the “financial provider” for the household—was a pervasive belief in the study sample. As discussed in the preceding chapter, in the context of socially prescribed notions of masculinity that view the man as the “provider” for the household, poverty and unemployment can place substantial psychological pressures upon a man. Acceptance by his family, his community, and by the larger society is contingent upon his ability to contribute adequately to the household income. Threats to this “male mystique” as *the* provider for the household—whether in the form of the wife earning income or the wife complaining about his inadequacy as an income-generator—can trigger familial conflict and potentially violence.

Finally, men in India are traditionally expected to exert authority and control over women (18), and this often takes the form of violence. In the present study, wife beating was expected and considered acceptable in certain circumstances. At least one commentator has noted that many view wife beating as a man’s “right” (83). Another scholar-activist discusses how caste dynamics intersect with this aspect of masculinity to create a psychological predisposition to violence (82). She argues that “lower” caste men are (both structurally and bodily) “dislocated” and dispossessed, leading to the accumulation of aggression, the outlet of which is violence against their wives. In contrast, “higher” caste men claim “God-given” rights over the bodies of “lower” caste women, which could partially explain the rapes of tribal women by police officers, army

officials, and rural landlords (68). Yet, even this form of masculinity is not without its paradoxical character: it has been argued that *fear of ridicule*—fear of being considered “less than a man”—is the driving force for much of the violence that men inflict on their wives (38). Thus, fear is transformed into aggression, from which arises violence. Fundamentally, however, the male position is not one of stability, but rather one of fragility. In the context of other threats to the realization of the male mystique, this fragility may be another factor that is related to the widespread violence against women in Indian society.

These and other aspects of Indian masculinity are particularly disturbing in light of women’s vulnerability to HIV infection. In addition to societal structures and constraints on women, social expectations of men may very well increase a woman’s risk of HIV infection—whether it be through the expectation that men will engage in pre- or extra-marital sex, or through the impact of domestic violence on the ability of women to successfully negotiate risk-reducing behaviors. As the UNAIDS 2000 World AIDS Campaign argues, AIDS prevention programs must dedicate part of their efforts to changing commonly held notions of masculinity and the male mystique (18). Indeed, reducing women’s vulnerability to HIV infection will require “redefining what it means to be male” (173, p. 931).

Violence in the Home

The prevalence of physical domestic violence against women in this sample was almost 30% according to women’s responses and almost 40% according to men’s responses. These levels are consistent with results of other studies on domestic violence against women in India (47, 83, 93, 97, 98, 100). The male-female difference in the level

of violence reported has also been noted in one other study, in which non-Scheduled Caste men were more likely to report violence against their wives than were the non-Scheduled Caste women to report having experienced violence (97).

Several themes arose from the qualitative responses regarding physical violence against women, including sexual coercion, poverty, male anxiety, obedience of the wife, the role of alcohol, and involvement of the parents-in-law. Sex and violence intersected in many different scenarios. Several women recalled violence and sexual coercion as characterizing their first sexual experiences within marriage. In addition, male control over the terms of sex in marriage translated into physical violence, at times, when the wife refused to have sex. As one activist states, “[O]n the one hand violence is sexual, on the other hand sexuality in contemporary society seems to be pervaded with violence” (70, p. 6).

Poverty and male anxiety seemed to be inter-related factors that were associated with physical domestic violence. In addition to absolute poverty, a sense of *dissatisfaction* with the husband’s contribution to the family income was associated with violence. Similar results have been found in Mumbai, where men who “do not provide money regularly to their wives” are more likely to beat their wives (80), regardless of the absolute level of income earned. Socially prescribed notions of “masculinity” view the man as the “provider” for the household. The expectations that derive from this masculine ideal—that the man should find lucrative employment, that he should bring money home in a regular fashion, that he alone should support the family’s costs—can place quite significant psychological pressures upon a man. Men may develop anxiety about living up to expectations, especially in the face of difficult situations, such as

unemployment or low-wage work. This anxiety may effectively create a “short fuse,” such that violence may be triggered by apparently benign circumstances (174).

As has been noted elsewhere (47, 83), a wife’s disobedience was viewed as justification for physical violence. Although there was not a significant association between an attitudinal acceptance of wife beating and reported experiences of violence, it is quite likely that a societal-level acceptance of domestic violence allows the violence to occur regardless of the specific views of the individuals in question. A woman’s obedience was expected in several realms of married life: type/preparation of food; type of clothes worn; raising of children; and sexual activity. In the face of violence (or the threat of violence), it may be difficult (if not impossible) to confront one’s husband regarding conflict or negotiation of sexual issues.

The connection between alcohol and violence surfaced in women’s stories and from descriptions of violence within marriage; however, there was no quantitative association between physical violence and the husband’s intake of alcohol before sex. Part of this discrepancy may lie in the fact that the proper question was not asked. We asked only “Have you (or your spouse) drunk alcohol before having sex with your spouse?” We did not ask, “Do you (or does your spouse) drink alcohol on a regular basis?” Given the situational nature of the question that was asked, it is not possible to comment definitively on a possible association between husband’s alcohol intake and domestic violence. Other studies have demonstrated that alcohol intake is related to wife abuse (80, 83, 97, 100, 175). In fact, for several decades the Indian women’s movement has been actively campaigning to prohibit alcohol sales, limit liquor licenses, and decrease the frequency of male drunkenness, precisely because women have spoken out

about the connection between their husbands' drunkenness and violence in the home (74).

In addition to violence inflicted by husbands, several women described the involvement of in-laws (especially mothers-in-law) during episodes of violence. As discussed in Chapter 2, this calls into question the purely gender-based analysis of repressive power, since violence inflicted by a mother-in-law on a young wife obviously involves one woman wielding power over another woman in the form of violence. Fernandez uses the model of interlocking systems of domination developed by hooks (176) in order to analyze the dynamics of violence by extended family members in India (79). In this framework, gender, class, caste, and generational hierarchies all interact to situate women in individually unique locations with respect to experiences of violence, subordination, oppression, and power. While it is beyond the scope of this discussion to explore this model in detail, it is worth commenting that a more complex analysis of domestic violence is merited in light of various interlocking systems of domination.

Factors that were associated with physical violence included lower educational level (of both the wife and the husband), younger age at marriage for the woman, greater parity, and having a husband who is a truck driver. These results were in agreement with results reported elsewhere (83, 100). A few obvious policy implications related to these results include the need for increasing the educational levels of women and girls, strict enforcement of minimum age at marriage laws, and investigating more deeply the relationship between family planning programs and domestic violence.

Women from the land-owning and merchant castes reported much less physical violence than women from other castes; however, there was no significant caste

difference according to the men's responses. Similar differences in reporting of violence by caste have been reported by several others (97, 98). Whether these results reflect actual differences in experiences of violence, or rather differences in reporting of violence, is not clear.

However, several investigators have conjectured that caste identity may have an impact on the reporting of violence rather than on the actual prevalence of violence against women. According to Geetha, there are caste differences in the *perception* and *interpretation* of violence that may relate to differences in the reporting of violence by caste (82). Working caste women, she argues, are less likely than "higher caste" women to view anger as affection or power as love. They are therefore more likely to feel comfortable reporting experiences of beatings or abuse as violence, rather than consider them expressions of affection or intimacy. Rather than a difference in the interpretation of violence, Thiruchandran argues that women from different castes are more or less invested in portraying an image of family peace and harmony, which may affect the reporting of domestic violence by caste identity (75). According to her ethnographic work in Tamil Nadu, Brahmin and other "upper caste" women felt that maintaining an image of family peace and harmony is linked to notions of social prestige, thus elevating the virtue of silence regarding issues of violence and family conflict. As a result, Brahmin women in her study refused to talk much about domestic violence. In contrast, Adi Dravida ("untouchable") women were not as concerned about maintaining an image of family harmony in the interest of preserving social prestige or family decorum. Consequently, they felt freer to describe the violence they experienced in their homes. Visaria agrees with Thiruchandran that "higher caste" women may be more concerned

about social stigma and therefore less likely to report physical abuse, but adds that a woman's concern for the "honor" of her husband and family may compel her to maintain silence about family conflict and violence (98). Finally, silence may be a strategy of resistance that women adopt in the face of domestic violence (81); Thiruchandran argues that this particular strategy of resistance is used more frequently by Brahmin women than by Adi Dravida women (75). It is quite possible that the strategy of silence becomes internalized to the point of avoidance of emotions, selective amnesia, or depersonalization—all of which are known reactions to trauma (177). In summary, there is considerable reason to believe that the observed caste differences in prevalence of domestic violence might be related more to differences in reporting than to differences in actual experiences of violence.

In addition to physical violence, many women reported having experienced psychological and emotional forms of violence within marriage. Threats of violence or abandonment were fairly common, in agreement with the finding of studies conducted among other populations (83, 93, 98). With respect to the risk of HIV infection and barriers to the adoption of safer sexual behaviors, the threat of violence may have as much impact as actual violence. The fear that may inhibit a woman from raising sensitive issues such as extramarital sex or the use of condoms may very well be related to threats of violence, as well as experiences of violence. The fairly high levels of psychological violence in this sample, therefore, are particularly disturbing.

Overall, almost two-thirds of the women had experienced some form of physical, sexual, psychological, or emotional violence in the home. This strikingly high level has been reported elsewhere (83, 93, 98). Thus, it appears as if there is an "overall context of

violence” within which intimate relationships, such as marriage, develop. Experiencing and responding to these various forms of violence poses a considerable challenge to individual women, as well as to organizations focused on women’s empowerment and rights (20, 95).

The Intersection of Violence and Sex

As discussed above, the individuals’ qualitative responses highlighted the intersection of violence against women and sex. The quantitative data also yielded some notable associations between domestic violence and sexual relations within marriage. First, violence was associated with increasing frequency of sex. Second, violence was associated with less condom use, less discussion of condom use, and lower comfort levels discussing condom use within marriage. Similar results have been reported elsewhere (45, 46, 109-111). It appears that domestic violence creates barriers to practicing or even discussing safe sex within marriage. Given the need for effective communication in order to achieve behavioral modification within intimate partnerships (28), these results highlight the need for AIDS prevention programs to take a serious look at the reality of violence in women’s lives when formulating their interventions and outreach efforts (173).

HIV and Domestic Violence

Of the couples in which the husband was HIV-positive, 74.2% were sero-concordant. A previous study conducted at YRGCARE among couples in which at least one spouse was HIV-positive reported a sero-concordance level of 66% (63). The association between caste identity and HIV status of the women was intriguing, in that land-owning and merchant caste women were more likely to be HIV-positive than

women from other castes. A closer look at the data reveals that a majority of the land-owning and merchant caste women are of Telugu-speaking, not Tamil-speaking, origin. It is thus conceivable that the Telugu-speaking land-owning and merchant caste women traveled from Andhra Pradesh to come to YRGCARE, since it is a referral center. It is also plausible that those women would not have made the trip to Chennai unless they were almost absolutely certain that they were HIV-positive and could benefit from the visit to YRGCARE. This could help explain the caste differences in HIV seropositivity. It is impossible to know for sure whether or not those individuals came from a neighboring state, because place of origin was never asked during the interview. However, this hypothesis may merit further, more rigorous investigation.

Another interesting finding was that wives of truck drivers were at much higher risk of being HIV-positive than other women. One possible explanation for this finding is that truck drivers may have been infected for a longer period of time, on average, and therefore may have been at a later stage of HIV-related disease, than men of other occupations (60, 61). This may have increased the likelihood of HIV transmission to the wives of truck drivers, relative to other women. Another perplexing finding was that as the number of husband's sexual partners increased, the risk of HIV infection for the woman decreased. One possible explanation is that the frequency of sex within marriage may decrease as a man's extramarital sexual relations increase in number. In fact, frequency of sex within marriage was positively associated with risk of HIV infection. However, the relationship between number of men's lifetime sexual partners and frequency of sex within marriage was not examined. Finally, condom use within

marriage was associated with a very modest, but not significant, decrease in women's risk of HIV infection.

Contrary to what was expected, women who reported having experienced physical violence were *less* likely to be HIV-positive than women who reported no violence in their homes. This finding was especially confusing in light of the association between domestic violence and decreased condom use, and the association (albeit weak and not statistically significant) between decreased condom use and increased risk of HIV infection. Only one other study has reported similar paradoxical results: in that study, recent domestic violence was associated with lower risk of HIV infection (106). However, the authors of that study did not discuss or attempt to explain that finding.

As a first step towards attempting to explain the paradoxical relationship between domestic violence and women's HIV status, a preliminary stratified analysis of the data was conducted. First, it was noticed that a substantial amount of discrepancy existed between men's and women's responses to certain questions, at two different levels: 1) at the level of reporting experiences, such as prevalence of domestic violence; and 2) at the level of the bivariate relationship between certain variables, such as the fact that the violence-HIV association disappeared when analyzing men's responses. Perhaps the discrepancy between men's and women's responses was an indication of the questionable validity of an individual's reports of experiences of violence. Specifically, perhaps there was some exposure misclassification that could bias the results.

It was first necessary to determine whether the discrepancy noted for the violence variable was significantly greater than the "background noise" of discrepancy that existed for all variables. Intra-couple reliability, measured by calculating the percent agreement

for a select group of variables, differed significantly between “sensitive” and “non-sensitive” variables. Although others have used the Kappa statistic to measure the reliability of sexual histories in heterosexual couples (178, 179), I felt it was inappropriate in this instance to use the Kappa statistic, because the comparison involved one *group* of men vs. another *group* of women rather than one man vs. one woman, for which the Kappa statistic is theoretically relevant (180). Because it was possible that the specific discrepancy between a husband’s and a wife’s reports of domestic violence reflected a dynamic of the marital relationship that may have been related to the wife’s risk of HIV infection, a stratified analysis was performed in order to detect either confounding or effect modification. Although there was no evidence for confounding, there was some evidence for effect modification. However, it is not possible to come to a definitive conclusion regarding this issue, due to small sample size (specifically, there were zero-values in one or more of the stratified cells, making the calculation of a chi-squared value for the test of homogeneity impossible).

Second, it was hypothesized that caste identity may have influenced the relationship between domestic violence and women’s HIV infection status. As discussed previously, the land-owning and merchant caste women were much less likely to have reported violence and much more likely to be HIV-positive. Perhaps that group of women was driving the paradoxical result. Stratified analysis of the violence-HIV relationship by caste identity yielded some evidence for confounding and some evidence for effect modification (test of homogeneity, $p \sim 0.25$). Again, however, conclusions are limited by the small sample size and wide confidence intervals. The results are consistent with the following hypothetical scenario. Land-owning and merchant caste women were

more likely to be HIV-positive, because a majority of them were Telugu-speaking and came from Andhra Pradesh for their HIV testing and counseling, as discussed above. In addition, the land-owning and merchant caste women were much less likely to report actual experiences of violence due to reasons described above (social stigma, social prestige, silence as resistance). Thus, there is *differential* misclassification, in that the exposure misclassification (i.e. misreporting of domestic violence) primarily occurs among the HIV-positive women (large proportion of land-owning and merchant caste women). Differential misclassification may bias the results away from the null (127), which could help explain the paradoxical result. To be sure, this explanation is only conjecture and requires more follow-up to assess the accuracy and validity of the hypothesis. In addition, even if it were true, it would not fully explain the results, because the women from the other castes still had a violence-HIV odds ratio of less than one (table 6.17). Some other explanation is required to complete the picture.

Finally, previous knowledge of one's HIV status could have led to recall bias and differential misclassification of domestic violence. A professor of Social Work explained that an individual's sense of shame and stigma may be exponentially increased with diagnosis of HIV infection, which has three different implications with respect to the reporting of violence (181). First, the HIV-positive woman may feel damaged, disempowered, or even perhaps deserving of the violence. Second, the HIV-positive woman may be concerned about disclosing sensitive information that could have a disruptive impact on a situation that is already quite fragile and tenuous. Third, HIV infection is a traumatic experience and could cause a dissociative response in the individual. Especially in the medical setting, the woman may exhibit dissociation, depersonalization,

and amnesia. All of these factors could cause recall bias (a form of differential misclassification), such that HIV-positive women are less likely than HIV-negative women to report experiences of violence, which could bias the results away from the null. Analysis of the violence-HIV relationship stratified by previous knowledge of HIV status was complicated by small sample size and zero-values in some of the stratified cells. However, the initial analysis indicates that there may be confounding present. The test of homogeneity for effect modification could not be performed due to zero-values. Thus, it may well be the case that previous knowledge of HIV status led to recall bias, which, in turn, caused differential misclassification and possible bias away from the null.

In summary, a paradoxical and unexpected association between physical violence and risk of HIV infection was found, in that women reporting violence were *less* likely to be HIV-positive than women reporting no violence. Three sources of information bias— intra-couple discrepancy, caste identity, and previous knowledge of HIV status—were analyzed and found to potentially explain some of this relationship, although the sample size was too small to come to any definitive conclusion. A more detailed stratified and multivariate analysis, which can be undertaken when the sample size is larger, could shed some more light on this interesting and perplexing finding.

Limitations of the Study

There are several limitations to this study, including the cross-sectional study design, the small sample size, the questionable validity of the responses, the absence of certain key questions, the creation of “categories,” the problem of multiple comparisons, and the question of its generalizability. Let us examine each of these in turn.

Inherent to the cross-sectional study design is the impossibility of determining the directionality of relationships between variables, due to the fact that the data are collected cross-sectionally at the same time. In the present instance, this leads to difficulties in the interpretation of the quantitative results. For instance, it is difficult to say with certainty whether a woman's sense of dissatisfaction with her husband's contribution to the household income is a cause or an effect of physical violence by the husband on the wife.

As has been referred to several times, the small sample size hindered the quantitative analysis. The small sample size led to wide confidence intervals for the crude odds ratios. In addition, it was not possible to complete the multivariate analysis due to inadequate statistical power. Also, the stratified analyses were limited, due to zero-values in some of the stratified cells. The small sample size is in part due to the substantial "inefficiency" in the recruitment process; the estimated 50% recruitment loss had an adverse impact on sample size. In addition, the recruitment loss could potentially affect the generalizability of the results.

The validity of the responses is quite suspect. First, the context of the interview may not have been conducive to collecting accurate information about sensitive issues. A 30-minute interview conducted in the testing and counseling center at the time of pre-test counseling may not be the most comfortable atmosphere for women and men to discuss sensitive issues related to marriage, sex, and violence. Second, although anonymity had to be maintained as per the policy of YRGCARE and in the interest of the protection of the research subjects, it may have had problematic effects on the validity of responses. It is uncertain as to whether an anonymous interview setting is conducive to establishing the type of rapport necessary to discuss sensitive issues. Third, it is widely believed that

significant under-reporting occurs when discussing sensitive issues such as domestic violence (98, 109, 135). Fourth, there were, in fact, discrepancies within couples for both “sensitive” and “non-sensitive” variables, causing me to suspect that there was more distortion in the data than may be apparent. Finally, there may have been caste differences in the accuracy of reporting of certain variables, such as domestic violence.

During the analysis and writing stages of the thesis, I have come to realize that certain key questions were missing from the questionnaire that was used in this study. As mentioned in the Introduction, biological vulnerability to HIV infection is affected by STDs (5, 6) and genital ulcers (10), two biological factors that may have more impact than violence on the transmissibility of HIV and that could have been assessed during the course of the interview. Although biological vulnerability was not the focus of this study, it would have been important to at least control for these factors when investigating the relationship between domestic violence and HIV infection. In addition, because an individual’s risk perception is an important determinant of the adoption of risk-reducing behaviors, questions such as “Do you feel at risk for HIV infection?” or “Do you think your husband is HIV-positive?” would have provided at least some measure of the woman’s perception of her own risk to HIV infection. Violence as a barrier to risk-reducing behaviors (such as condom use) makes sense only if the individual is attempting to adopt those risk-reducing behaviors in the first instance (which, logically, happens as a result of perceiving oneself to be “at risk” for infection).

The creation of “categories” is especially disturbing in light of the discussion in Chapter 4. The most problematic and volatile area in which this limitation arises is the categorization of caste identities. The categorization system used in this study was based

on conversations I had with individuals who had either lived and/or worked extensively in Tamil Nadu and south India, in addition to the classification system used by the Tamil Nadu government for the purposes of reservations and other political objectives. Even within this system, there were conflicts among the different recommended categorization schemes, and I had to make a choice (somewhat informed, but in no way expert) about how to proceed. I am quite sure that the caste categories that I utilized are far from the reality that people live. I am therefore concerned that caste, as it has been artificially categorized, appears to have an important influence on the relationship between domestic violence and HIV infection. It is certainly plausible that an equally valid (and perhaps more accurate) caste categorization scheme could yield very different results in the stratified analysis. Thus, I wish to interpret my results with extreme caution, lest I unwittingly and unconsciously fall into the trap that I denounced in Chapter 4.

As with the studies reviewed in Chapter 3, this study is potentially subject to the problem of multiple comparisons. Although I examined only two “outcome” variables (domestic violence and HIV infection) and various associated factors, it is still conceivable that one or more of the significant associations arose due to chance. In light of the already small sample size, I felt that performing a statistical procedure such as the Bonferroni adjustment would decrease what little statistical power remained in the dataset. Thus, I decided not to account for multiple comparisons at this stage in the analysis.

Finally, this study is of limited generalizability. Due to the far-from-perfect recruitment, even the statistical inference of the study is questionable. In other words, there is no certainty that the study sample is representative of the actual population of

married individuals who seek testing and counseling services at YRGCARE. Internal validity and external validity are even more questionable.

Future studies of this issue in south India should take heed from the mistakes committed during the process of this study. In addition, the results of this study should be interpreted with caution and a healthy dose of critical skepticism.

Chapter 8: Concluding Thoughts

This thesis raises more questions than it answers. It is, thus, but the first step in a much longer process of exploration, reflection, investigation, critique, and resolution. In this chapter, I wish to reflect upon a few of the salient questions and issues that have arisen in my mind through the course of this work.

First, what can be said about the relationship between gender-based violence and vulnerability to HIV infection among women in south India? Unfortunately, not much can be concluded in a definitive manner. What emerged from this study is that women in south India experience a “multiplicity” of violence—physical, sexual, psychological, emotional, intellectual—that at times pervades women’s daily experiences in apparently subtle and insidious forms. This multiplicity of violence appears to affect behaviors that are related to vulnerability to HIV infection: sexual knowledge, sexual communication, control over sex, condom negotiation, and condom use. To this extent, it would behoove AIDS prevention programs in India to pay attention to the reality of violence in women’s lives and the impact it may have on the ability of women to adopt (or convince their partners to adopt) risk-reducing behaviors. New directions in AIDS prevention—development of female-controlled technology to prevent HIV transmission, modification of HIV counseling services for married couples to incorporate discussion of marital conflict and violence, education of girls and women about sexual and reproductive health issues, and exploration of alternative models of masculinity with boys and men—are warranted in light of these research findings.

However, the relationship between women’s reports of physical domestic violence and HIV infection was unexpected and paradoxical: women who reported

having experienced domestic violence were *less* likely than women who reported not having experienced domestic violence to be HIV-positive. Reporting bias leading to differential misclassification was hypothesized as contributing to this paradoxical finding. While there is some evidence that such bias exists in the dataset, a full explanation for this result is still lacking.

Thus, this research project can be described most aptly as a “hypothesis-generating,” rather than a “hypothesis-testing,” study. The paradoxical violence-HIV relationship, the striking relationship of caste identity to both HIV status and reported violence, and the intra-couple discrepancy of responses related to violence and sexual behavior are merely a few of the findings that cause one to pause and consider the following questions. How exactly does violence impact the marital relationship in south India? What may lie behind the differences in reporting of violence by caste and gender? How can research tease out caste-specific differences in the prevalence of violence from caste-specific differences in the pattern of reporting of violence? By what pathways does masculinity affect male sexual and violent behavior in south India? How can AIDS prevention programs strategically engage with societal expectations of the “male mystique” that may increase a woman’s vulnerability to HIV infection? What other socio-political structures contribute to the context of violence that surrounds many south Indian women? How do these socio-political structures increase a woman’s vulnerability to HIV infection? What is the most appropriate methodology to approach these and other related questions?

The last question about methodology merits further discussion. As outlined in Chapter 4, one of the goals of this thesis was to explore the potential for epidemiology to

be a “successor science.” Some of the principles of a “successor science” that were mentioned include: 1) critical self-reflection on the part of the investigator; 2) emphasis on experience and “situated knowledges”; 3) wariness of reification; and 4) politicized research. I am not fully satisfied with the strategy that I ultimately utilized: a “traditional” cross-sectional epidemiological study that included a few open-ended questions to allow for qualitative data. As has been pointed out to me on more than one occasion, my interest in feminist methodology and Foucauldian understandings of power does not reconcile well with the survey instrument that formed the basis for the data collection in this study. The somewhat “schizophrenic” nature of the thesis results from a desire to apply the critique of post-structuralist and feminist theory to epidemiology in such a way as to allow for and support reflection on strategies to *engage in action*. I am not satisfied with “armchair theorizing” that critiques methodology without suggestions of viable alternatives to engage with very real problems, such as the spread of the HIV epidemic to “married monogamous women” in India. Neither am I satisfied, however, with purely traditional epidemiology that, as I have argued, has yet to rid itself of the vestiges of colonialism and colonial medicine.

How, then, to arrive at some resolution? Clearly, this study did not achieve that objective. However, in the course of committing errors and falling short of aspirations, I have sought out new directions and inspirations for my future work in this area. I look towards Lather’s “naked methodology” for guidance on how to use a qualitative/ethnographic approach to focus on “how the participants construct themselves in relation to the categories laid on them” (182, p. 140). I am inspired by the work of Farmer and his seemingly seamless blend of medicine, epidemiology, anthropology, and

politics (16). I am intrigued by Brown's work on "popular epidemiology," grounded in the dual objectives of empowering research subjects to take charge of research agendas and mobilizing the community to respond to issues of pressing concern (183). Finally, I wish to follow Lindheim and Syme's lead in utilizing an "ecological" approach to promote a healthy environment that "provides a range of opportunities for its inhabitants to shape the conditions that affect their lives" (184, p. 338).

Is it possible to weave together these different strands into a meaningful, cohesive, and useful approach to the study of power, vulnerability, intimacy, empowerment, health promotion, and disease prevention? This is the formidable task that I lay before myself as I continue on my medical and public health career. With the intellectual, psychological, and emotional support of teachers, colleagues, friends, and family, I envision this path to be one of discovery, growth, challenge, and inspiration.

Figure 3.1. Schematic diagram representing the relationship among the various studies that were retrieved for the critical review. Boxes indicate those studies that were included in the critical review.

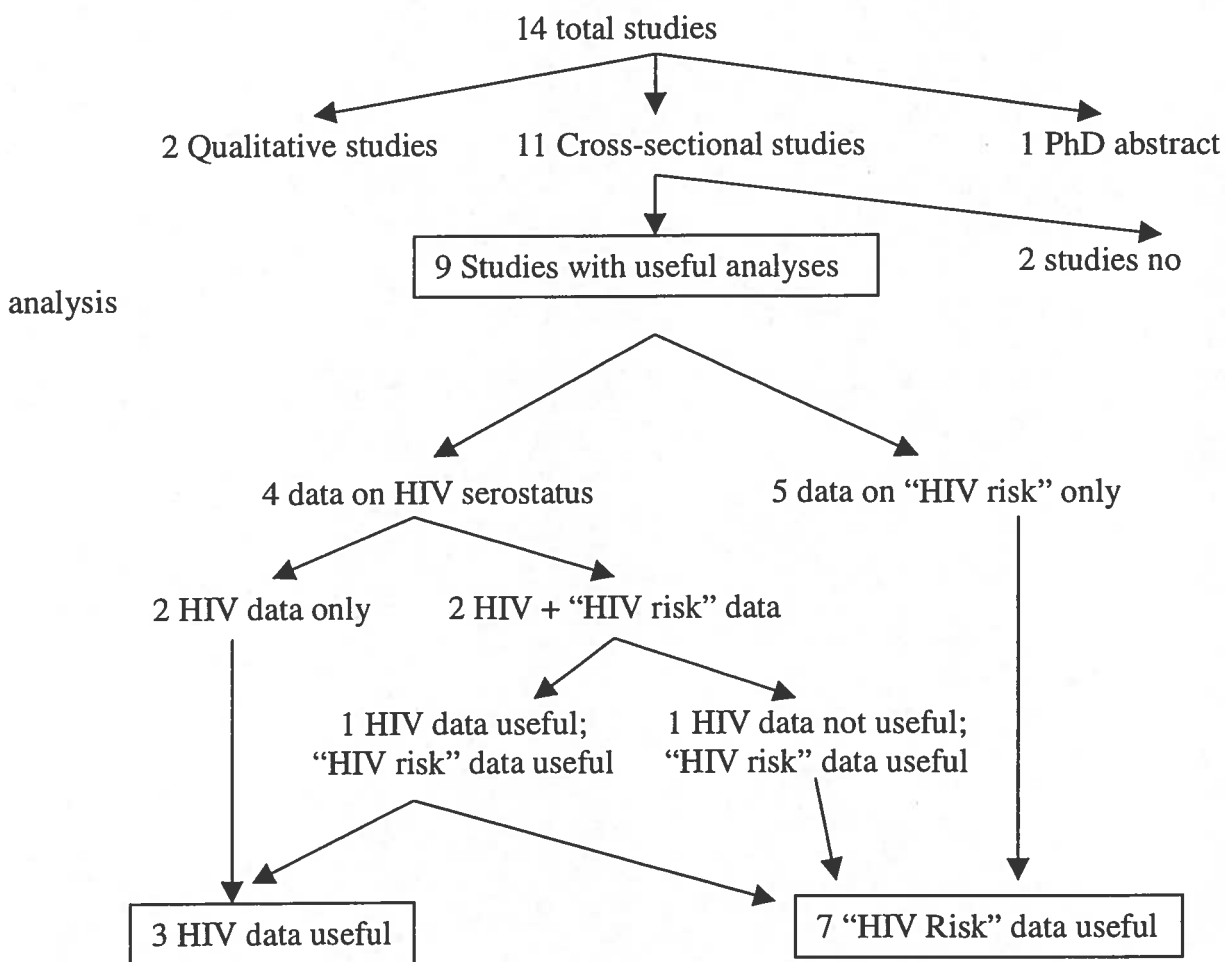


Figure 6.1. Association between comfort level discussing condom use with spouse, and actual discussion of condom use with spouse (data presented for both men and women).

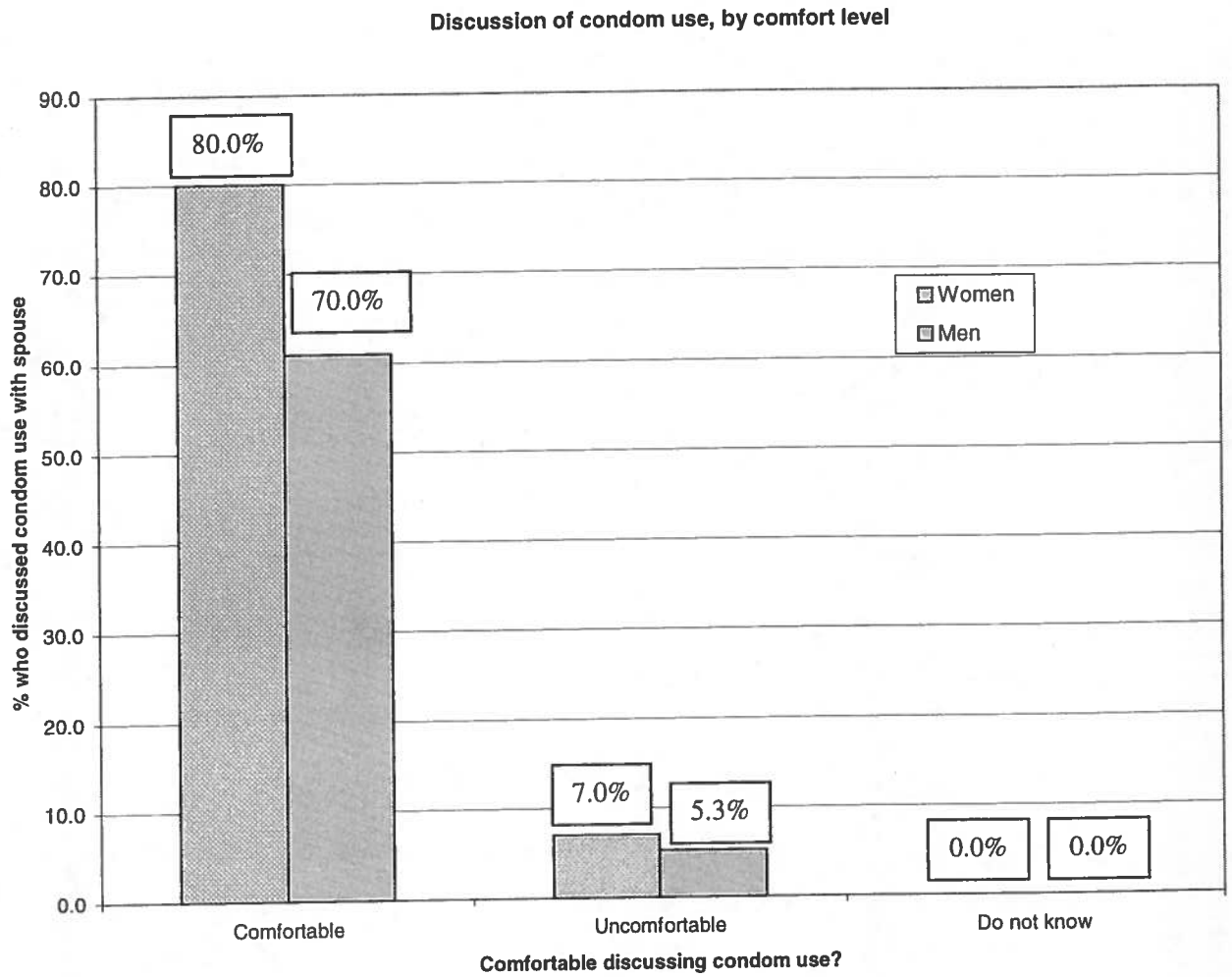


Figure 6.2. Illustration of how “percent agreement” was calculated for the couples discrepancy analysis.

		Wives' Responses to a Question	
		Yes	No
Husbands' Responses to a Question	Yes	a	b
	No	c	d

$$\text{Percent Agreement} = [(a+d)/(a+b+c+d)]*100$$

Table 3.1. Summary of studies examining the relationship between gender-based violence and HIV risk. Studies are listed in reverse chronological order.

Reference	Study Design	Study Population	Exposure Variable(s)	Outcome Variable(s)	Measure of Association	Confounding	Limitations
Cohen 2000 (106)	Cross-sectional	1645 women participants in Women's Interagency HIV Study	Recent domestic violence (past 1 year)	HIV infection > 10 male sexual partners Recent injection drug use	<u>Odds Ratios (95% CI)</u> 0.69 (0.51, 0.92) 1.36 (1.01, 1.83) 1.44 (0.92, 2.25)	Age Race/ethnicity Annual income Education	Generalizability Multiple Comparisons Discrepancy between research question, results, and conclusion
Kalichman 1998 (45)	Cross-sectional	125 women in low-income housing	Sexual coercion	Physical abuse ≥ 2 sex partners Fear of condom negotiation Successful condom negotiation Crack cocaine use	<u>Odds Ratios (95% CI)</u> 2.2 (1.1, 4.5) 1.0 (0.3, 4.1) 5.4 (1.3, 20.5) 0.4 (0.2, 1.0) 14.6 (1.8, 118.7)	No control	No response rate Unadjusted OR's only Generalizability Multiple Comparisons
Miller 1998 (109)	Cross-sectional	130 women opiate users	Sexual abuse	Crack use Injected drug use Any injection Inconsistent condom use Primary partner Occasional partner Multiple partner Severe HIV risk	<u>Odds Ratios (95% CI)</u> 1.39 (0.63, 3.07) 1.30 (0.61, 2.77) 2.80 (1.15, 6.80) 0.85 (0.40, 1.79) 3.24 (1.15, 9.09) 3.94 (1.15, 13.48) 2.49 (1.14, 5.44)	Age Race/ethnicity Sexual orientation Social isolation	Generalizability Multiple comparisons
He 1998 (107)	Cross-sectional	208 women partners of male drug users	Rape Physically hurt by sex partner	Multiple sex partners Anal sex Consistent condom use Multiple sex partners Anal sex Consistent condom use	16% vs. 6%; p = 0.02 16% vs. 6%; p = 0.02 9% vs. 12%; p = 0.46 14% vs. 8%; p = 0.22 15% vs. 7%; p = 0.07 12% vs. 10%; p = 0.65	No control	No response rate No control of confounding variables, even though potential for confounding demonstrated Generalizability Multiple comparisons

Table 3.1. (cont.)

Reference	Study Design	Study Population	Exposure Variable(s)	Outcome Variable(s)	Measure of Association	Confounding	Limitations
Wingood 1998 (111)	Cross-sectional	165 African-American women; low SES	Rape	Sex \geq 10 times in past 3 months Inconsistent condom use Never used condoms Never negotiated safe sex Physically abusive partner	Odds Ratios (90% CI) 5.9 (1.5, 18.2) 3.3 (2.5, 10.7) 3.0 (2.7, 10.1) 2.8 (2.7, 9.0) 11.1 (4.0, 54.5)	Age	<ul style="list-style-type: none"> ▶ No response rate ▶ Controlled for age only ▶ 90% CI's ▶ Table 2, p. 81: calculated data is inconsistent ▶ Generalizability ▶ Multiple comparisons
Thompson 1997 (110)	Cross-sectional	83 women STD clinic patients	Sexual abuse	\geq 2 partners # times drunk/high Injection drug use Condom use negotiation	Model chi-squared = 6.67, 7 df, p = 0.46 (ns)	Age	<ul style="list-style-type: none"> ▶ No response rate ▶ Limited control of confounding factors ▶ Generalizability ▶ Multiple comparisons
Wingood 1997 (46)	Cross-sectional	165 African-American women; low SES	Physically abusive partner	Never use condoms Less frequent condom use (rates)	71.4% vs. 42.6% (p = 0.04) 22% vs. 44% (p = 0.04)	No control	<ul style="list-style-type: none"> ▶ No response rate ▶ Partner's alcohol/drug use not controlled for ▶ Generalizability ▶ Multiple comparisons
Zierler 1996 (108)	Cross-sectional	408 women = 262 from cohort study + 146 from drug treatment centers and STD clinics	Rape	HIV infection \geq 3 partners in 1 yr. Unprotected sex under the influence of drugs in last year Injected drugs Sex for drugs/money HIV infection	Odds Ratios 1.4 (0.8, 2.4) (90% CI) 1.4 (0.7, 2.6) (95% CI) Odds Ratios HIV+ HIV- 3.4 1.6 2.8 5.7	Race/ethnicity Income Referral route History of sex work	<ul style="list-style-type: none"> ▶ OR(MH) pooled over both HIV and history of sex work; does not allow for test of homogeneity ▶ Low response rate (262/520) ▶ Combined two different groups of subjects; validity? ▶ Generalizability ▶ Multiple comparisons
van der Straten 1995 (44)	Cross-sectional	876 women from couples study in Kigali, Rwanda	Sexual coercion	HIV infection	2.2 1.1 3.7 4.5 43% vs. 29% (p < 0.001)	Not clear	<ul style="list-style-type: none"> ▶ No p-value provided ▶ Generalizability

Table 3.2. Evaluation of the studies investigating the association between gender-based violence and HIV risk. + is equivalent to 1 point (0 to 3 scale) and * is equivalent to ½ point (0 to 1.5 scale).

Reference	Research question/ sampling strategy clear	Response rate	Results address research question (0 to 3)	Adjustment for Confounders (0 to 3)	Proper statistical analysis (0 to 3)	Confidence intervals appropriate (0 to 3)	Graphs/tables clear and useful (0 to 1.5)	Conclusion clear and comprehensive (0 to 3)
Miller (109)	Yes	97%	+++	+++	+++	+++	**	+++
Cohen (106)	Yes	100%	++	+++	+++	+++	**	++
Thompson (110)	Yes	Not provided	+++	+	+++	+++	**	++
Wingood (1997) (46)	Yes	Not provided	+++	+	++	+++	**	+++
Zierler (108)	Yes	Subgp 1: 262/520 Subgp 2: not provided	+++	+++	++	+	*	+++
van der Straten (44)	Yes	Not provided	+++	+	+++	+	***	+++
Wingood (1998) (111)	Yes	Not provided	+++	++	++	+	*	+++

Table 3.2. (cont.)

Reference	Research question/ sampling strategy clear	Response rate	Results address research question (0 to 3)	Adjustment for Confounders (0 to 3)	Proper statistical analysis (0 to 3)	Confidence intervals appropriate (0 to 3)	Graphs/tables clear and useful (0 to 1.5)	Conclusion clear and comprehensive (0 to 3)
Kalichman (45)	Yes	Not provided	+++	No	++	+++	**	++
He (107)	Yes	Not provided	+++	No	+	+	**	++

Table 3.3. A closer look at Wingood et al. (1998): p.81, Table 2, examining the relationship between rape and various sexual, psychological, and social factors. Reported odds ratio point estimates (column 2) are not consistent with the calculated odds ratio point estimates (column 5) implied by the reported confidence intervals.

Variable	Reported Point Estimate	Reported Lower Confidence Interval	Reported Upper Confidence Interval	Calculated Point Estimate ^a
Sex ≥ 10x	5.9	1.5	18.2	5.2
Inconsistent Condom Use	3.3	2.5	10.7	5.2
Never used condoms	3	2.7	10.1	5.2
No condom at last intercourse	3.3	2.9	9.4	5.2
No condom when drinking	3.3	2.2	12.1	5.2
Never negotiated safe sex	2.8	2.7	9.0	4.9
Physically abusive partner	11.1	4.0	54.5	14.8
Sex unenjoyable	3.2	2.7	10.0	5.2
No eligible partners	9.8	3.7	54.6	14.2

^a Odds ratio calculated using the following formula: $OR(\text{point estimate}) = \exp[(\ln(LCI) + \ln(UCI))/2]$; LCI = Lower Confidence Interval, UCI = Upper Confidence Interval.

Table 5.1. Sample size estimate output from Epi Info 6.0.

Confidence Level	Power	Unexposed:Exposed	Odds Ratio	Sample Size
95%	80%	1:1	2.0	306
		4:1	2.0	465
		3:1	2.0	400
		2:1	2.0	339
95%	80%	1:1	3.0	124
		4:1	3.0	190
		3:1	3.0	160
		2:1	3.0	138
95%	80%	1:1	4.0	80
		4:1	4.0	120
		3:1	4.0	104
		2:1	4.0	90
95%	80%	1:1	5.0	62
		4:1	5.0	95
		3:1	5.0	80
		2:1	5.0	69
95%	80%	1:1	8.0	40
		4:1	8.0	60
		3:1	8.0	52
		2:1	8.0	45

Table 6.1. Socio-demographic profile of the study sample. Figures in parentheses are percentages; percentages may not add up to 100% due to rounding.

Characteristic	Women (N = 73)	Men (N = 91)
Age group		
18-20	12 (16.4)	0 (0.0)
21-25	30 (41.1)	10 (11.0)
26-30	17 (23.3)	28 (30.8)
31-35	8 (11.0)	33 (36.3)
36-53	6 (8.2)	20 (22.0)
Education		
None	16 (21.9)	12 (13.2)
Some Primary	12 (16.4)	11 (12.1)
Some Secondary	42 (57.5)	61 (67.0)
Post-Secondary	3 (4.1)	7 (7.7)
Occupation		
Housewife	60 (82.2)	---
Unskilled labor	9 (12.3)	36 (39.6)
"White collar" worker	---	21 (23.1)
Truck driver	---	19 (20.9)
Other employment	3 (4.1)	13 (14.3)
Unemployed	1 (1.4)	2 (2.2)
Monthly Income (Rupees) ¹		
No monthly income	61 (83.6)	2 (2.2)
< 1000	11 (15.0)	23 (25.6)
1000-1900	1 (1.4)	30 (33.3)
2000-50,000	0 (0)	34 (37.8)
Religion		
Hindu	69 (94.5)	89 (97.8)
Muslim	1 (1.4)	0 (0)
Christian	3 (4.1)	2 (2.2)
Caste ¹		
Tamil land-owning/ merchant caste	7 (10.0)	11 (12.4)
Telugu land-owning/ merchant caste	19 (27.1)	25 (28.1)
Backward classes	26 (37.1)	30 (33.7)
SC/ST/Harijan	7 (10.0)	12 (13.5)
Other castes	11 (15.7)	11 (12.4)
Language of Interview		
Tamil	42 (57.5)	53 (58.2)
Telugu	31 (42.5)	37 (40.7)
English		1 (1.1)

¹ Some data are missing for this variable.

Table 6.2. Characteristics associated with marriage. Figures in parentheses are percentages; percentages may not add up to 100% due to rounding.

Characteristic	Women (N = 73)	Men (N = 91)
Age at marriage		
12-15 years	10 (13.7)	0 (0.0)
16-18	30 (41.1)	3 (3.3)
19-25	33 (45.2)	54 (59.3)
26-33	0 (0.0)	34 (37.4)
Reason for marriage ²		
Love	4 (5.5)	4 (4.4)
Arranged	70 (95.9)	85 (93.4)
Parental pressure	8 (11.0)	2 (2.2)
Companionship	3 (4.1)	3 (3.3)
Social Custom	0 (0)	3 (3.3)
Number of children		
0	23 (31.5)	26 (28.6)
1	19 (26.0)	23 (25.3)
2	20 (27.4)	30 (33.0)
3 or more	11 (15.1)	12 (13.2)
Is wife pregnant?		
Yes	7 (9.6)	10 (11.0)
Currently using birth control? ³		
Yes	14 (21.2)	27 (33.3)

¹ Some data are missing for this variable.

² Individuals could choose all reasons that were applicable; thus, percentages do not add up to 100%.

³ Pregnant individuals not included in the denominator of the percentage calculation for this variable, since this question was "not applicable" for them.

Table 6.3. Summary of women's (N=73) and men's (N=90) gender-related attitudes. Figures in parentheses are percentages; percentages may not add up to 100% due to rounding.

Attitudinal Statement	Women	Men
If a wife suggests using a condom, the husband should agree to use one.		
Disagree	7 (9.6)	11 (12.4)
Neutral	1 (1.4)	5 (5.6)
Agree	41 (56.2)	61 (68.5)
Do not know	24 (32.9)	12 (13.5)
It is acceptable for men to have sexual relations outside of marriage.		
Disagree	69 (94.5)	86 (96.6)
Neutral	3 (4.1)	1 (1.1)
Agree	0 (0)	1 (1.1)
Do not know	1 (1.4)	1 (1.1)
It is acceptable for women to have sexual relations outside of marriage. ¹		
Disagree	71 (98.6)	88 (98.9)
Do not know	1 (1.4)	1 (1.1)
It is OK for a man to hit his wife if she does not do as he says.		
Disagree	50 (68.5)	66 (74.2)
Neutral	3 (4.1)	2 (2.2)
Agree	18 (24.7)	21 (23.6)
Do not know	2 (2.7)	0 (0)
It is OK for a man to force his wife to have sex even if she refuses. ¹		
Disagree	62 (86.1)	85 (95.5)
Neutral	0 (0)	1 (1.1)
Agree	4 (5.6)	2 (2.2)
Do not know	6 (8.3)	1 (1.1)
Men should control all household finances. ¹		
Disagree	32 (44.4)	49 (55.7)
Neutral	9 (12.5)	13 (14.8)
Agree	27 (37.5)	26 (30.0)
Do not know	4 (5.6)	0 (0)
Intake of alcohol before sex often leads to violence. ¹		
Disagree	9 (12.5)	17 (19.3)
Neutral	3 (4.2)	2 (2.3)
Agree	16 (22.2)	46 (52.3)
Do not know	44 (61.1)	23 (26.1)
Boys should be fed more food than girls if there is not enough food for everybody.		
Disagree	66 (90.4)	78 (87.6)
Neutral	0 (0)	3 (3.4)
Agree	5 (6.8)	6 (6.7)
Do not know	2 (2.7)	2 (2.2)
It is OK to limit girls to primary school education even if the boys receive higher education. ¹		
Disagree	63 (87.5)	78 (87.6)
Neutral	1 (1.4)	3 (3.4)
Agree	4 (5.6)	6 (6.7)
Do not know	4 (5.6)	2 (2.2)

¹ Some data are missing for this variable.

Table 6.4. Sexual relations within marriage, as described by both women and men. Figures in parentheses are percentages; percentages may not add up to 100% due to rounding.

Characteristic	Women (N=73)	Men (N=90)
Frequency of sex in past 3 months ¹		
Never	34 (47.9)	45 (50.6)
Less than once/month	10 (14.1)	14 (15.7)
Once/month	8 (11.3)	6 (6.7)
2-3 times/month	7 (9.9)	6 (6.7)
At least once/week	12 (16.9)	18 (20.2)
Who initiates sex? ¹		
Wife always	7 (9.6)	3 (3.3)
Husband always	41 (56.2)	57 (63.3)
Both but wife more often	1 (1.4)	0 (0)
Both but husband more often	19 (26.0)	23 (25.6)
Both of us equally	4 (5.5)	6 (6.7)
Sexual practices ^{1,2}		
Vaginal sex	73 (100)	89 (100)
Anal sex	0 (0)	1 (1.1)
Oral sex	10 (13.7)	26 (29.2)
Has your spouse ever refused sex?		
Yes	9 (12.3)	32 (35.6)
Have you drunk alcohol before sex in the past 3 months? ³		
Never	39 (100)	32 (71.1)
Sometimes	0 (0)	12 (26.7)
Always	0 (0)	1 (2.2)
Has your spouse drunk alcohol before sex in the past 3 months? ^{1,3}		
Never	29 (76.3)	42 (93.3)
Sometimes	6 (15.8)	2 (4.4)
Always	3 (7.9)	1 (2.2)

¹ Some data are missing for this variable.

² Individuals were asked separately about each sexual practice; thus, percentages do not add up to 100%.

³ The denominator for this variable is equal to 39 for the women, and 45 for the men, since this question was "not applicable" for those individuals who reported never having sex in the past 3 months (34 for the women, 45 for the men).

Table 6.5. Condom use within marriage, as described by men and women. Figures in parentheses are percentages; percentages may not add up to 100% due to rounding.

Issue	Women (N = 73)	Men (N = 90)
Have you ever used a condom with your spouse? Yes	23 (31.5)	31 (34.4)
Have you ever been forced to have sex without a condom? No Yes Have never wanted to use a condom with spouse	58 (79.4) 2 (2.7) 13 (17.8)	61 (67.8) 6 (6.7) 23 (25.6)
Have you ever discussed condom use with your spouse? Yes	19 (26.0)	27 (30.0)
Do you feel comfortable discussing condom use with your spouse? No Yes Do not know	43 (58.9) 20 (27.4) 10 (13.7)	38 (42.2) 41 (45.6) 11 (12.2)

Table 6.6. Summary of domestic violence prevalence in the study sample. Number of individuals responding “yes” is recorded unless otherwise indicated; figures in parentheses are percentages.

Form of Violence	Women (N=73)	Men (N=90)
I have hit/slapped my spouse	1 (1.4)	34 (37.8)
My spouse has hit/slapped me	21 (28.8)	4 (4.4)
My spouse has threatened to hit/slap me	22 (30.1)	5 (5.6)
I am afraid of physical violence in my home	11 (15.1)	0 (0)
My spouse has threatened to abandon me	6 (8.2)	11 (12.2)
I am afraid of abandonment by my spouse	5 (6.8)	2 (2.2)
I think that my spouse has gone to another person to satisfy his/her sexual desires		
Yes	20 (27.4)	1 (1.1)
Do not know	13 (17.8)	4 (4.4)
My spouse has threatened to go to another person to satisfy his/her sexual desires	7 (9.6)	0 (0)
My spouse has become angry about sex and then not spoken to me	11 (15.1)	5 (5.6)
My spouse has insulted me in front of other people	5 (6.8)	6 (6.7)

Table 6.7. Association between physical violence and other forms of violence (women's responses) (N=73). OR = Odds ratio; CI = Confidence interval.

Form of violence	(n)	Women's self-report of physical violence (%)	Crude OR (95% CI)
Sexual coercion			
No	(60)	28.3	1
Yes	(13)	30.8	1.1 (0.3, 4.2)
Threat of physical violence			
No	(51)	19.6	1
Yes	(22)	50.0	4.1 (1.3, 12.9)
Threat of abandonment			
No	(67)	26.9	1
Yes	(6)	50.0	2.7 (0.5, 15.2)
Afraid of physical violence			
No	(62)	25.8	1
Yes	(11)	45.4	2.4 (0.6, 9.2)
Afraid of abandonment			
No	(68)	25.0	1
Yes	(5)	80.0	12.0 (1.1, 131.0)
Think that husband has extramarital sex			
No	(40)	20.0	1
Yes	(20)	40.0	2.7 (0.8, 9.0)
Don't know	(13)	38.5	2.5 (0.6, 10.1)
Husband threatened extramarital sex			
No	(65)	23.1	1
Yes	(7)	71.4	8.3 (1.3, 52.9)
Husband became angry about sex and did not speak to wife			
No	(62)	24.2	1
Yes	(11)	54.6	3.8 (1.0, 14.8)
Husband insulted her in front of others			
No	(68)	26.5	1
Yes	(5)	60.0	4.2 (0.6, 28.3)

Table 6.8. Bivariate analysis of socio-demographic marital factors and physical violence against wives, according to women's responses. Figures shown are percentages of women in each category who reported having experienced physical violence, and crude odds ratios with 95% confidence intervals (N=73). * Test for trend of odds significant ($p < 0.05$).

Factors, according to Women's Responses (number in each category)	Women's self-report of domestic violence (%)	Crude OR (95% CI)
Age of women		1
18-23 (25)	36.0	
24-28 (24)	20.8	0.5 (0.1, 1.7)
29-40 (24)	29.2	0.7 (0.2, 2.5)
Caste of women ¹		1
Tamil Land-owning/Merchant (7)	14.3	
Telugu Land-owning/Merchant (19)	5.3	0.33 (0.02, 6.79)
"Backward Classes" (26)	30.8	2.7 (0.3, 27.6)
Scheduled Caste/Scheduled Tribe (7)	42.9	4.5 (0.3, 76.7)
Other castes (11)	72.7	16.0 (0.7, 365.4)
Wife's Education*		1
None (16)	50.0	
Some Primary (12)	33.3	0.5 (0.1, 2.5)
>= Secondary (45)	20.0	0.25 (0.07, 0.91)
Wife's Occupation		1
Housewife or unemployed (61)	27.9	
Employed (12)	33.3	1.3 (0.3, 4.9)
Husband's occupation		1
"White collar" worker (12)	16.7	
Unskilled labor (34)	23.5	1.5 (0.3, 8.7)
Truck driver (16)	37.5	3.0 (0.4, 20.2)
Other employment (10)	40.0	3.3 (0.4, 27.1)
Unemployed (1)	100.0	#
Household monthly income ¹		1
<= 1500 Rupees/month (36)	33.3	
1500-50000 Rupees/month (27)	29.6	0.8 (0.3, 2.5)
Husband provides adequately? ¹		1
No (46)	34.8	
Yes (23)	13.0	0.3 (0.1, 1.1)
Age at marriage ¹		1
12-18 (39)	38.5	
19-25 (33)	18.2	0.4 (0.1, 1.1)
Number of children*		1
0 (23)	17.4	
1 (19)	21.0	1.3 (0.3, 6.0)
2 (20)	35.0	2.6 (0.6, 11.0)
>= 3 (11)	54.6	5.7 (1.0, 33.2)

Unable to calculate odds ratio for this category due to a zero-value in one of the boxes in the respective 2x2 table.

¹ Some data are missing for this variable.

Table 6.9. Relationship of domestic violence to sex within marriage. Figures shown are percentages of women in each category who reported having experienced physical violence, and crude odds ratios with 95% confidence intervals (N=73).

Variable (Number in each category)	Women's self report of domestic violence (%)	Crude Odds Ratio (95% CI)
Frequency of sex in past 3 months ¹		
Never (34)	23.5	1
Less than weekly (25)	28.0	1.3 (0.4, 4.2)
At least weekly (12)	41.7	2.3 (0.6, 9.7)
Husband drinks alcohol before sex ¹		
Never (29)	34.5	1
Sometimes or always (9)	33.3	1.0 (0.2, 4.7)
No sex in past 3 months (34)	23.5	0.6 (0.2, 1.8)
Ever used condom with husband		
Yes (23)	17.4	1
No (50)	34.0	2.4 (0.7, 8.6)
Discussed condom use with husband		
Yes (19)	15.8	1
No (54)	33.3	2.7 (0.7, 10.7)
Comfortable discussing condoms		
Yes (20)	15.0	1
No (43)	30.2	2.4 (0.6, 10.2)
Don't know (10)	50.0	5.7 (0.8, 38.4)

Table 6.10. Bivariate analysis of men's reports of inflicting violence on their wives. Figures shown are percentages of men who admitted to hitting or slapping their wives, plus odds ratios and 95% confidence intervals (N=90). * Chi-squared test for trend of odds is significant.

Characteristic (number in each category)	% of Men who hit/slapped wife	Odds Ratio (95% CI)
Age of men		
22-29 years (27)	37.0	1
30-34 years (34)	32.4	0.8 (0.3, 2.4)
35-53 years (29)	44.8	1.4 (0.5, 4.1)
Caste of men ¹		
Tamil Land-owning/Merchant (11)	45.4	1
Telugu Land-owning/Merchant (25)	32.0	0.6 (0.1, 2.5)
"Backward Classes" (30)	30.0	0.5 (0.1, 2.2)
Scheduled Caste/Tribe (12)	50.0	1.2 (0.2, 6.4)
Other castes (10)	50.0	1.2 (0.2, 7.0)
Husband's Education		
>= Secondary (68)	33.8	1
Some primary (11)	63.6	3.4 (0.9, 13.4)
None (11)	36.4	1.1 (0.3, 4.2)
Husband's Occupation		
"White collar" worker (21)	28.6	1
Unskilled labor (35)	31.4	1.1 (0.3, 3.8)
Truck driver (19)	57.9	3.4 (0.8, 13.8)
Other (13)	30.8	1.1 (0.2, 5.2)
Unemployed (2)	100.0	#
Wife's Occupation		
Housewife (79)	38.0	1
Unskilled (9)	44.4	1.2 (0.3, 5.3)
Other (2)	0.0	#
Household monthly income ¹		
<= 1500 Rupees/month (47)	34.0	1
> 1500 Rupees/month (40)	42.5	1.4 (0.6, 3.4)
Age at marriage		
16-24 years (42)	42.9	1
25-33 years (48)	33.3	0.7 (0.3, 1.6)
Number of children*		
0 (26)	23.1	1
1 (23)	39.1	2.1 (0.6, 7.6)
2 (29)	41.4	2.4 (0.7, 7.9)
>= 3 (12)	58.3	4.7 (1.0, 22.7)
It is acceptable for a man to hit his wife if she is disobedient. ¹		
Disagree (66)	34.8	1
Agree (21)	52.4	2.0 (0.7, 5.7)

¹ Some data are missing for this variable.

Unable to calculate odds ratio and/or confidence interval for this category due to a zero-value in one of the boxes in the respective 2x2 table.

Table 6.11. Bivariate relationships between men's reports of wife abuse and men's sexual behavior, both within and outside marriage. Figures shown are percentages of men who admit to hitting/slapping their wives, and crude odds ratios with 95% confidence intervals (N=90).

Variable (number in each category)	% of Men who reported hitting/slapping wife	Crude Odds Ratio (95% CI)
Frequency of sex in past 3 months ¹		
Never (45)	28.9	1
Less than weekly (26)	53.8	2.9 (1.0, 8.2)
At least weekly (18)	38.9	1.6 (0.5, 5.0)
I have drunk alcohol before sex in past 3 months		
Never (32)	50.0	1
Sometimes/Always (13)	38.5	0.6 (0.2, 2.4)
No sex in past 3 months (45)	28.9	0.4 (0.2, 1.1)
Ever used condom with wife		
No (59)	33.9	1
Yes (31)	45.2	1.6 (0.6, 3.9)
Discussed condom use with wife		
No (63)	38.1	1
Yes (27)	37.0	1.0 (0.4, 2.4)
Comfortable discussing condoms		
Yes (41)	43.9	1
No (38)	31.6	0.6 (0.2, 1.5)
Do not know (11)	36.4	0.7 (0.2, 2.9)
Forced wife to have sex when she refused		
No (14)	28.6	1
Yes (18)	55.6	3.1 (0.6, 15.0)
Wife has never refused (58)	34.5	1.3 (0.4, 4.8)
Had sex before marriage ¹		
No (12)	25.0	1
Yes (77)	40.3	2.0 (0.5, 8.2)
Had sex outside of marriage		
No (46)	32.6	1
Yes (44)	43.2	1.6 (0.6, 3.7)
Total # of lifetime sexual partners ¹		
1-4 partners (26)	30.8	1
5-9 partners (23)	34.8	1.2 (0.4, 4.0)
10-20 partners (20)	50.0	2.2 (0.6, 7.8)
> 20 partners (14)	28.6	0.9 (0.2, 3.8)

¹ Some data are missing for this variable.

Table 6.12. Calculation of average “percent agreement” for the “sensitive” and “non-sensitive” questions. N = 66 couples, unless otherwise indicated.

“Non-Sensitive” Variables	% Agreement	“Sensitive” Variables	% Agreement
Husband's Occupation	83.3	Frequency of sex ²	76.2
Wife's Occupation	92.4	Initiates sex ²	61.9
Husband's Income ¹	67.2	Oral sex ¹	76.6
Wife's Income	95.4	Wife refuses sex ³	61.5
Who provides income	77.3	Wife alcohol ³	80.0
Husband desires children	84.8	Husband alcohol ¹	75.0
Wife desires children	80.3	Condom use ³	84.6
Birth control	84.8	Condom use 3 months ³	92.3
		Discussion of condom use ³	76.9
		Comfortable discussing condoms ³	56.9
		Husband extramarital sex ³	52.3
		Husband has hit wife ³	75.4

¹ N=64 for this variable.

² N=63 for this variable.

³ N=65 for this variable.

Table 6.13. Sero-concordance/sero-discordance status of the couples enrolled in the study (N=65). Figures shown are absolute counts and percent of total.

Type of Couple	Frequency	Percent of total
Husband HIV+/Wife HIV+	46	70.8
Husband HIV+/Wife HIV-	16	24.6
Wife HIV+/Husband HIV-	2	3.1
Wife HIV-/Husband HIV-	1	1.5

Table 6.14. Bivariate analysis of various socio-demographic characteristics and women's HIV status. Figures shown are percentages of women who are HIV-positive, plus crude odds ratios and 95% confidence intervals. N=62 (women whose husbands are all HIV-positive), unless otherwise indicated.

Characteristic (number in each category)	Percent Women HIV+	Crude Odds Ratio (95% CI)
Age of women		
18-23 (23)	78.3	1
24-28 (17)	88.2	2.1 (0.3, 12.8)
29-40 (22)	59.1	0.4 (0.1, 1.5)
Age of men		
22-29 (18)	77.8	1
30-34 (25)	80.0	1.1 (0.2, 5.1)
35-53 (19)	63.2	0.5 (0.1, 2.2)
Caste of Women ¹		
Land-owning/merchant (22)	90.9	1
Other castes (38)	65.8	0.2 (0.04, 1.0)
Caste of Men ¹		
Land-owning/merchant (25)	80.0	1
Other castes (36)	72.2	0.6 (0.2, 2.2)
Education of Wife		
None (14)	78.6	1
Some Primary (9)	55.6	0.3 (0.05, 2.4)
>= Secondary (39)	76.9	0.9 (0.2, 4.0)
Education of Husband		
None (10)	81.8	1
Some Primary (7)	66.7	0.4 (0.05, 3.8)
>= Secondary (45)	75.6	0.7 (0.1, 3.8)
Occupation of Wife		
Housewife (53)	75.5	1
Employed (9)	66.7	0.6 (0.1, 3.0)
Occupation of Husband		
Unskilled labor (29)	69.0	1
"White Collar" worker (10)	70.0	1.0 (0.2, 5.1)
Truck Driver (13)	92.3	5.4 (0.5, 53.2)
Other employment (9)	66.7	0.9 (0.2, 4.5)
Unemployed (1)	100.0	#
Household Monthly Income ^{1,2}		
<= 1500 Rupees/month (34)	76.5	1
1600-50000 Rupees/month (25)	68.0	0.6 (0.2, 2.1)
Age at marriage for women ¹		
12 to 18 (35)	74.3	1
19 to 25 (26)	76.9	1.2 (0.3, 3.8)
Number of children		
None (19)	79.0	1
One (14)	78.6	1.0 (0.2, 5.4)
Two (19)	73.7	0.7 (0.2, 3.4)
Three or more (10)	60.0	0.4 (0.1, 2.3)

Odds ratio was not able to be calculated, due to the presence of a zero-value in the respective 2x2 table.

¹ Some data are missing for this variable.

² Based on husband's responses.

Table 6.15. Bivariate analysis of sexual behavior variables and women's HIV status. Figures shown are percentages of HIV-positive women for each category, plus odds ratios and 95% confidence intervals. N = 62, unless otherwise indicated.

Category	% HIV+ Women	Odds Ratio (95% CI)
Frequency of sex with spouse in past 3 months (wife response) ¹		
Never (31)	67.7	1
Less than weekly (20)	80.0	1.9 (0.5, 7.4)
At least weekly (9)	88.9	3.8 (0.4, 37.4)
Frequency of sex with spouse in past 3 months (husband response) ¹		
Never (33)	72.7	1
Less than weekly (19)	73.7	1.0 (0.3, 3.8)
At least weekly (9)	77.8	1.3 (0.2, 7.7)
Ever used a condom with husband		
No (45)	75.6	1
Yes (17)	70.6	0.8 (0.2, 2.7)
Ever used a condom with wife ¹		
No (40)	75.0	1
Yes (21)	71.4	0.8 (0.2, 2.8)
Discussed condom use with husband		
No (47)	76.6	1
Yes (15)	66.7	0.6 (0.2, 2.2)
Discussed condom use with wife ¹		
No (43)	76.7	1
Yes (18)	66.7	0.6 (0.2, 2.1)
Comfortable discussing condom use with husband		
Yes (15)	66.7	1
No (39)	76.9	1.7 (0.4, 6.3)
Do not know (8)	75.0	1.5 (0.2, 10.8)
Comfortable discussing condom use with wife ¹		
Yes (26)	69.2	1
No (28)	78.6	1.6 (0.5, 5.7)
Do not know (7)	71.4	1.1 (0.2, 7.2)
Husband had premarital sex ¹		
No (7)	57.1	1
Yes (53)	75.5	2.3 (0.4, 12.0)
Husband had extramarital sex ¹		
No (34)	70.6	1
Yes (27)	77.8	1.4 (0.4, 4.8)
Total # of sexual partners for husband ¹		
1-4 partners (16)	81.2	1
5-9 partners (17)	76.5	0.8 (0.1, 4.2)
10-20 partners (13)	69.2	0.5 (0.1, 3.0)
> 20 partners (9)	55.6	0.3 (0.04, 2.0)

¹ Some data are missing for this variable.

Table 6.16. Bivariate analysis of domestic violence and women's HIV status. Figures shown are percentages of HIV-positive women in each category, plus odds ratios and 95% confidence intervals. N = 62, unless otherwise indicated.

Form of violence	% HIV+ Women	Odds Ratio (95% CI)
Wife reports having been hit by husband		
No (42)	83.3	1
Yes (20)	55.0	0.24 (0.07, 0.87)
Husband admits hitting his wife ¹		
No (40)	72.5	1
Yes (21)	76.2	1.21 (0.35, 4.16)
Wife reports being threatened with violence		
No (40)	72.5	1
Yes (22)	77.3	1.3 (0.4, 4.4)
Wife reports being threatened with abandonment		
No (56)	71.4	1
Yes (6)	100.0	#
Wife is afraid of physical violence		
No (52)	75.0	1
Yes (10)	70.0	0.8 (0.2, 3.5)
Wife is afraid of being abandoned		
No (58)	72.4	1
Yes (4)	100.0	#
Wife thinks husband has extramarital sex		
No (33)	78.8	1
Yes (17)	64.7	0.5 (0.1, 1.9)
Do not know (12)	75.0	0.8 (0.2, 3.9)
Wife reports husband threatens extramarital sex ¹		
No (55)	72.7	1
Yes (6)	83.3	1.9 (0.2, 17.8)
Husband has gotten angry about sex		
No (51)	74.5	1
Yes (11)	72.7	0.9 (0.2, 4.0)
Wife reports having been forced to have sex		
No (50)	74.0	1
Yes (12)	75.0	1.0 (0.2, 4.6)
Husband admits forcing wife to have sex ¹		
No (12)	66.7	1
Yes (12)	83.3	2.5 (0.3, 18.7)
Not applicable (wife never refused) (37)	73.0	1.4 (0.3, 5.6)
Wife reports any form of violence (physical, sexual, psychological, or emotional)		
No (19)	79.0	1
Yes (43)	72.1	0.7 (0.2, 2.5)

¹ Some data are missing for this variable.

Odds ratio not able to be calculated due to a zero-value in one of the respective 2x2 tables.

Table 6.17. Stratified analysis of the physical violence-HIV relationship. Figures shown are odds ratios of the physical violence-HIV relationship, stratified by caste identity, discrepant responses between husband and wife to the wife abuse question, and previous HIV testing, respectively. N-values are not identical due to missing data. MH = Mantel-Haenszel.

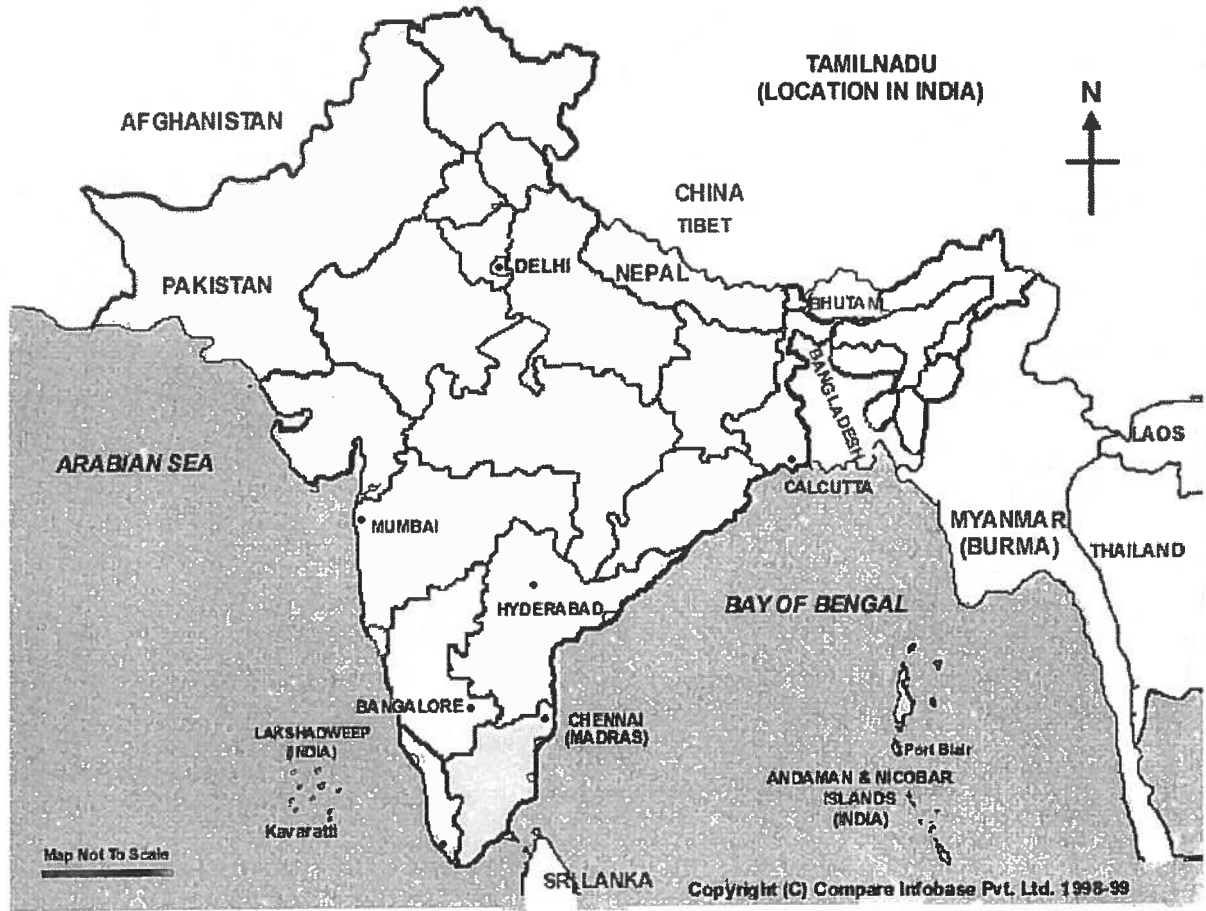
Variable	Category of Odds Ratio	Odds Ratio (95% CI)	Test of homogeneity
Caste Identity	Crude Odds Ratio (N=60)	0.22 (0.06, 0.81)	χ^2 (1 df) = 1.29 p ~ 0.25
	MH Estimate (N=60)	0.34 (0.10, 1.15)	
	Land-owning/merchant castes (n=22)	0.05 (0.001, 2.66)	
	Other castes (n=38)	0.42 (0.10, 1.73)	
Discrepant response between husband and wife regarding wife abuse	Crude Odds Ratio (N=61)	0.22 (0.06, 0.81)	#
	MH Estimate (N=61)	0.23 (0.06, 0.82)	
	No discrepancy (n=47)	0.41 (0.10, 1.74)	
	Discrepancy (n=14)	0.0 *	
Previous HIV Testing	Crude Odds Ratio (N=59)	0.24 (0.06, 0.86)	χ^2 (1 df) = 0.125¶ p > 0.50
	MH Estimate (N=59)	0.13 (0.02, 0.93)¶	
	No previous HIV test (n=18)	0.09 (0.004, 1.89)	
	Previous HIV-negative result (n=19)	0.17 (0.01, 2.34)	
	Previous HIV-positive result (n=22)	*	

* Odds ratio and confidence interval not calculable, due to zero-values in one of the stratified 2x2 tables.

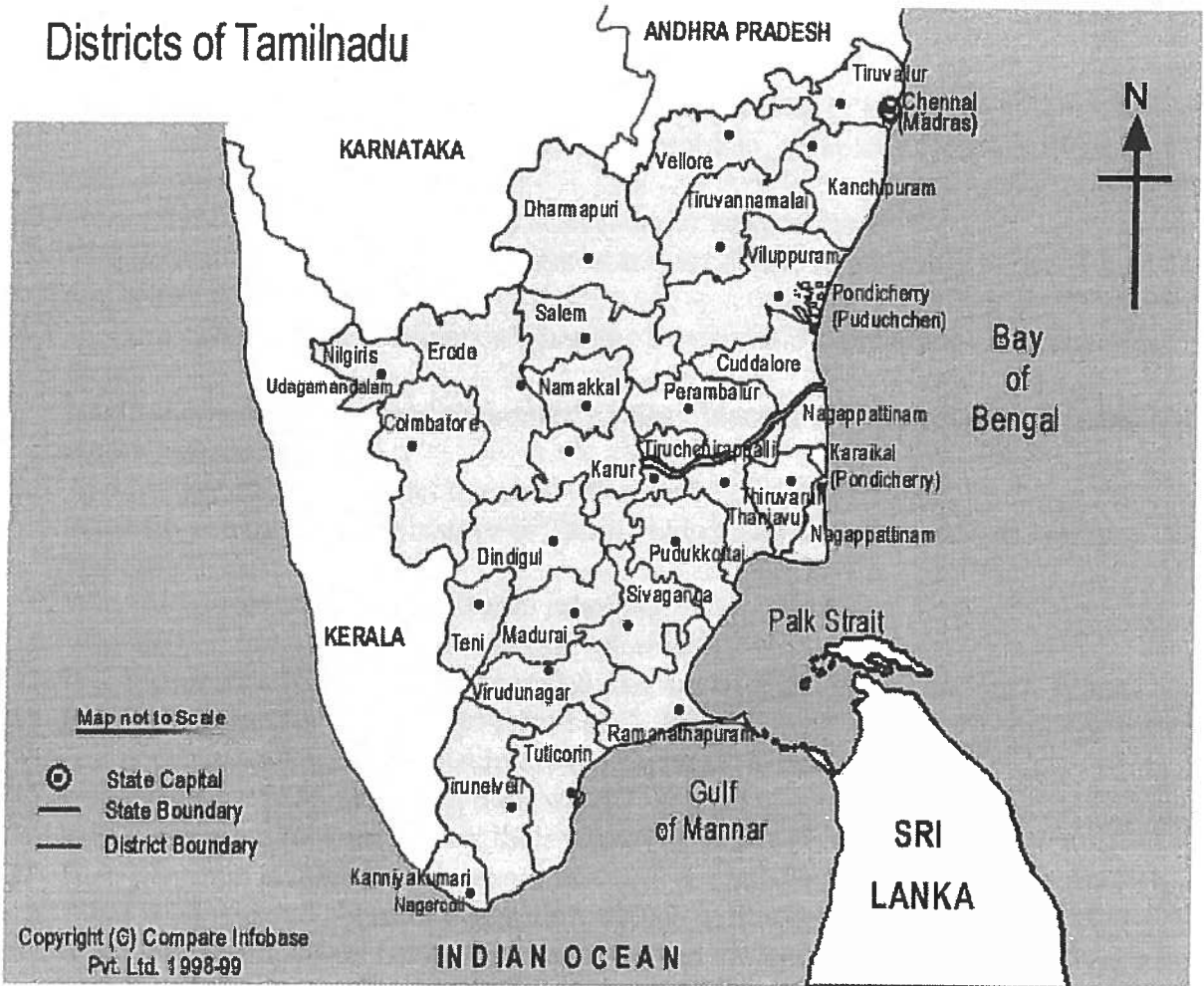
χ^2 not calculable, due to zero-values in one of the stratified 2x2 tables.

¶ The Mantel-Haenszel estimate and the test of homogeneity utilize only two of the three strata from this stratification, due to zero-values in the stratified 2x2 table for "Previous HIV-positive result."

APPENDIX 1: MAPS OF INDIA AND TAMIL NADU



APPENDIX 1 (cont.)



APPENDIX 2: SEMI-STRUCTURED INTERVIEW QUESTIONS

1. Please list some health problems of women.
 - What do you think causes these health problems?
 - Which of these health problems are most common?
2. Please list some health problems of men. (same probing Q's as above)
3. You listed _____ as a common health problem. (Explore symptoms, etiology, care, prognosis)
4. How might these health problems affect family relationships?
5. Which health problems have the greatest impact on the relationship between husband and wife?
6. Explore general issues in women's health: menstruation, pregnancy, childbearing, lactation
7. Explore other issues related to women's roles: women's work, education, women's empowerment
8. At what age should men get married? Women?
9. What do you think of the history of Tamil Nadu's and India's efforts at family planning?
10. Why do you think men have sexual relations?
11. Why do you think women have sexual relations?
12. Is it appropriate for a woman to suggest that her husband use a condom? When?
13. Is it appropriate for a woman to refuse sex? When?
14. Is it appropriate for men to discipline their wives? When?
15. Is it appropriate for men to hit their wives? When?
16. Is it appropriate for men to beat their wives? When?
17. How common is domestic violence?
18. What is considered abuse or domestic violence in this community?
19. Is alcohol an important factor that contributes to violence between husband and wife? Why or why not?
20. Please describe some of your experiences with women's empowerment programs/projects.
21. How would you define "women's empowerment"?
22. Do you think that focusing upon heterosexual transmission among married couples is appropriate? Why or why not?
23. What social structural issues are important to consider when conducting research on risk of HIV infection, or when engaging in HIV/AIDS prevention efforts?
24. What ethical issues are involved in conducting research on domestic violence and risk of HIV infection?
25. What recommendations do you have for me as I conduct this study?

APPENDIX 3: INFORMATIONAL STATEMENT/ORAL CONSENT

Before you have your Human Immunodeficiency Virus (HIV) test, I would like to tell you about a research study that may interest you. We at YRGCARE are working together with a researcher from the University of California, Berkeley (USA), and we are conducting a research study on what things are related to HIV infection. We are inviting everyone who comes in for testing to participate if they wish. Participation in the research is voluntary. Whether or not you choose to participate, your services at the clinic will not be affected in any way. We hope that the results of the study will be helpful in learning more about the things that are related to HIV infection.

If you do decide to participate, there will be an interview before your test. The interview will take place in a private room here at YRGCARE. No one else will be in the room other than myself (the interviewer), you, and maybe the researcher from UC Berkeley. The interview will last approximately 30 minutes, and will consist of questions about your health, your marriage, and what you think about HIV. Some of the questions may be quite personal and sensitive. At any time, you should feel free to skip any question you wish or stop the interview altogether. Also, if any question is not clear, just ask me to explain in more detail. I will record the answers to the questions on the questionnaire form. As is our standard practice here at YRGCARE, we are requesting that you invite your spouse to come here for voluntary HIV testing and counseling. At that time, we will invite your spouse to participate in the study.

Most importantly, **all of the information that you provide for the study is kept completely confidential. Neither your name nor any identifying information will appear anywhere in this project.**

There are several benefits you may gain from participating in this study. First, you will be enrolled in YRGCARE's counseling, testing, and clinical services programs. Second, this interview may allow you to share your experiences with me in a safe, private setting.

There are also some possible risks from participating in this study. First, there is the risk that someone may find out what you have told me during the interview. We will do our best to maintain privacy and confidentiality throughout the study. No one else will be present in the room except for you, me, and maybe the researcher from UC Berkeley, and we will not tell anyone about what you say. Also, some of the questions in the questionnaire may be personal, sensitive, and embarrassing. At any time, you should feel free to skip any question you wish or stop the interview altogether.

If, after you leave the interview, you have any questions, please feel free to contact me here at the clinic. The phone number of the clinic is (044) 826-4242.

Do you have any questions that you would like to ask me? This copy of the information is for you to keep.

INTERVIEWER: IF RESPONDENT CONSENTS, PROCEED. OTHERWISE:
"Thank you for speaking with us."

With your permission, for the purposes of this research study, I would like to have access to your HIV test results when they are available. Again, let me reassure you that **neither your name nor any identifying information will be linked to the HIV test result.**

INTERVIEWER: PLEASE NOTE WHETHER SUBJECT CONSENTS OR NOT.

APPENDIX 4: DATA COLLECTION FORM

General Information

1. Date: ___ / ___ / ____
2. Interviewer name:
3. Time at beginning of interview:
4. Patient Number:
5. Couple Code: ____ ____ ____
6. Patient Source:
 - 0 = Walk-in
 - 1 = Referred by Spouse
 - 2 = Other (please specify) _____

IDENTIFICATION NUMBER:

(FIRST 3 DIGITS ARE COUPLE CODE, LAST DIGIT IS PATIENT SOURCE)

____ _

Personal Information

7. Age: ___ __
8. Sex:
 - 0 = Female
 - 1 = Male
9. Religion
 - 0 = Hindu
 - 1 = Muslim
 - 2 = Buddhist
 - 3 = Christian
 - 4 = Other
 - 9 = Declined to answer
10. How would you describe your caste? (open-ended)
 - 77 = Do not know
 - 88 = Not applicable
 - 99 = Declined to answer
11. Education:
 - 0 = None
 - 1 = Some Primary (until 5th Standard)
 - 2 = Some Secondary (until 12th Standard)
 - 3 = Technical Training

- 4 = Some Graduate
- 5 = Degree
- 9 = Declined to answer

12. Spouse's Education:

- 0 = None
- 1 = Some Primary (until 5th Standard)
- 2 = Some Secondary (until 12th Standard)
- 3 = Technical Training
- 4 = Some Graduate
- 5 = Degree
- 7 = Do not know
- 9 = Declined to answer

13. Occupation:

- 0 = Unskilled
- 1 = Skilled
- 2 = Clerical
- 3 = Managerial
- 4 = Professional
- 5 = Unemployed
- 6 = Student
- 7 = Housewife
- 8 = Truck Driver
- 9 = CSW
- 10 = Other (specify) _____
- 99 = Declined to answer

14. Monthly income (Rupees):

15. Spouse's occupation:

- 0 = Unskilled
- 1 = Skilled
- 2 = Clerical
- 3 = Managerial
- 4 = Professional
- 5 = Unemployed
- 6 = Student
- 7 = Housewife
- 8 = Truck Driver
- 9 = CSW
- 10 = Other (specify) _____
- 77 = Do not know
- 99 = Declined to answer

16. Spouse's monthly income (Rupees):

17. Do you believe that you could survive economically without your spouse?

- 0 = No
- 1 = Yes

- 7 = Do not know
- 8 = Not Applicable
- 9 = Did not answer

18. Who provides income for the house?

- 0 = Self only
- 1 = Spouse only
- 2 = Both
- 3 = Other
- 9 = Declined to answer

19. Do you think that your spouse provides adequately towards the household income?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 8 = Not applicable
- 9 = Did not answer

20. Total household monthly income (e.g. there may be other adult members of the household):

Marital Information

21. Age at marriage: ___ ___

22. Age of partner at marriage: ___ ___

23. Reason for marriage (circle **all that apply**: 0 = No; 1 = Yes):

a) Love	Yes	No	Declined
b) Arranged	Yes	No	Declined
c) parental pressure	Yes	No	Declined
d) peer pressure	Yes	No	Declined
e) to have children	Yes	No	Declined
f) "proof of sexual fitness"	Yes	No	Declined
g) companionship	Yes	No	Declined
h) Other _____ (please specify)	Yes	No	Declined

24. How many children do you have?

25. How many children live at home?

26. Are you (or your spouse) currently pregnant?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

27. Do you wish for more children?

- 0 = No
- 1 = Yes
- 9 = Declined to answer

28. Does your spouse wish for more children?

- 0 = No
- 1 = Yes

- 7 = Do not know
- 9 = Declined to answer

29. Are you currently using birth control?

- 0 = No (**GO TO QUESTION 31**)
- 1 = Yes (GO TO QUESTION 30)
- 7 = Do not know
- 8 = Not applicable (e.g. if pregnant)
- 9 = Declined to answer

30. If yes to previous question, please specify what kind:

- 0 = Condom
- 1 = Intra-uterine contraceptive device
- 2 = Female sterilization (tubal ligation)
- 3 = Vasectomy
- 4 = Oral contraceptives
- 5 = Depo-provera
- 6 = Other (please specify) _____
- 7 = Do not know
- 8 = Not applicable (not using birth control)
- 9 = Declined to answer

Sexual Behavior

Introduction: The following questions are quite personal. Let me again reassure you that your responses are completely confidential. **Your name shall not appear anywhere on this record.**

31. Age at first sexual intercourse: __ __

32. What was the context of that first sexual experience? (i.e. What factors led to that first sexual experience?) Open-ended response:

33. How often have you had sex with your spouse in the past three months?

- 0 = Never
- 1 = less than once/month
- 2 = once/month
- 3 = 2 to 3 times/month
- 4 = once/week
- 5 = 2 to 6 times/week
- 6 = Daily
- 9 = Declined to answer

34. Who initiates sex?

- 0 = Self always
- 1 = Partner always
- 2 = Both but self more often
- 3 = Both but partner more often
- 4 = Both of us equally
- 7 = Do not know
- 8 = Not applicable (no sex)

9 = Declined to answer

35. Do you and your spouse practice the following mode(s) of sexual intercourse?
(0 = No, 1 = Yes, 9 = Declined)

- | | | | |
|-------------|-----|----|--------------------|
| a) Vaginal: | Yes | No | Declined to answer |
| b) Anal: | Yes | No | Declined to answer |
| c) Oral: | Yes | No | Declined to answer |

36. Has your spouse ever refused to have sex?

0 = No (**GO TO QUESTION 39**)

1 = Yes (**GO TO QUESTION 37**)

9 = Declined to answer

37. Have you ever had sex with your spouse even when s/he refused?

0 = No

1 = Yes

8 = Not applicable

9 = Declined to answer

38. In the past 3 months, have you had sex with your spouse even when s/he refused?

0 = No

1 = Yes

8 = Not applicable

9 = Declined to answer

39. Have you ever refused to have sex with anyone?

0 = No

1 = Yes

9 = Declined to answer

40. Have you ever been forced to have sex against your will by anyone?

0 = No (**GO TO QUESTION 43**)

1 = Yes (**GO TO QUESTION 41**)

9 = Declined to answer

41. If yes to previous question, at what age? ____

41a. If yes to Question 40, how did it happen? Open-ended response:

42. If yes to Question 40, have you been forced to have sex against your will in the past 3 months?

0 = No

1 = Yes

8 = Not applicable (No to question 40)

9 = Declined to answer

43. In the past three months, have you drunk alcohol prior to having sex with your spouse?

0 = Never

1 = Sometimes

2 = Always

8 = Not applicable (no sex in past 3 months)

9 = Declined to answer

44. In the past 3 months, has your spouse drunk alcohol prior to having sex with you?

0 = Never

- 1 = Sometimes
- 2 = Always
- 7 = Do not know
- 8 = Not applicable (no sex in past 3 months)
- 9 = Declined to answer

45. Have you and your spouse ever used a condom (Nirodh) while having sex?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

46. In the past three months, have you and your spouse used condoms (Nirodh) while having sex?

- 0 = Never (**GO TO QUESTION 47**)
- 1 = Sometimes (**GO TO QUESTION 48**)
- 2 = Always (**GO TO QUESTION 48**)
- 7 = Do not know
- 8 = Not applicable (**GO TO QUESTION 49**)
- 9 = Declined to answer

47. If "never" to the previous question, why not (circle **all that apply**: 0 = No, 1 = Yes)?

- | | |
|--|-----------------|
| a) Not available | Yes/No/Declined |
| b) Did not think about it | Yes/No/Declined |
| c) Embarrassed | Yes/No/Declined |
| d) Cannot afford | Yes/No/Declined |
| e) Decreased sexual pleasure | Yes/No/Declined |
| f) Desire for children | Yes/No/Declined |
| g) Spouse refused | Yes/No/Declined |
| h) Did not know <u>what</u> a condom was | Yes/No/Declined |
| i) Did not know <u>how</u> to use a condom | Yes/No/Declined |
| j) Using other forms of birth control (indicate specific type) | Yes/No/Declined |
| k) Other _____ (please specify) | Yes/No/Declined |

GO TO QUESTION 49.

48. If "always" or "sometimes" to Q46, why (circle **all that apply**: 0 = No, 1 = Yes)?

- | | |
|--|-----------------|
| a) To prevent pregnancy | Yes/No/Declined |
| b) To prevent infection _____ (please specify) | Yes/No/Declined |
| c) At spouse's request | Yes/No/Declined |
| d) Other _____ (please specify) | Yes/No/Declined |

GO TO QUESTION 49.

49. Has there ever been an instance when you wanted to use a condom with your spouse, but you were forced to have sex without a condom?

- 0 = No
- 1 = Yes

- 8 = Not applicable (e.g. has never wanted to use condoms with spouse)
- 9 = Declined to answer

50. Have you ever discussed condom use with your spouse?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

51. Do you feel comfortable discussing condom use with your spouse?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

52. Have you had sexual experiences before marriage (premarital sex)?

- 0 = No (**GO TO QUESTION 54**)
- 1 = Yes (**GO TO QUESTION 53**)
- 9 = Declined to answer

53. Did you use condoms during your premarital sexual experiences?

- 0 = Never
- 1 = Sometimes
- 2 = Always
- 7 = Do not know
- 8 = Not applicable (no to question 52)
- 9 = Declined to answer

54. Have you had sexual experiences outside of marriage (extramarital sex)?

- 0 = No (**GO TO QUESTION 57**)
- 1 = Yes (**GO TO QUESTION 55**)
- 9 = Declined to answer

55. Have you used condoms during your extramarital sexual experiences?

- 0 = Never (**GO TO QUESTION 56**)
- 1 = Sometimes (**GO TO QUESTION 57**)
- 2 = Always (**GO TO QUESTION 57**)
- 7 = Do not know
- 8 = Not applicable (no to question 54)
- 9 = Declined to answer

56. If "never" to the previous question, why not (circle **all that apply**: 0 = No, 1 = Yes)?

- | | |
|--|-----------------|
| a) Not available | Yes/No/Declined |
| b) Did not think about it | Yes/No/Declined |
| c) Embarrassed | Yes/No/Declined |
| d) Cannot afford | Yes/No/Declined |
| e) Decreased sexual pleasure | Yes/No/Declined |
| f) Desire for children | Yes/No/Declined |
| g) Partner refused | Yes/No/Declined |
| h) Did not know <u>what</u> a condom was | Yes/No/Declined |
| i) Did not know <u>how</u> to use a condom | Yes/No/Declined |
| j) The person with whom I'm having sex is "safe" | Yes/No/Declined |
| k) Other _____ (please specify) | Yes/No/Declined |

GO TO QUESTION 57.

57. How many total partners have you had sex with during your lifetime?

58. What is the sex of your sexual partner(s)? (circle **all that apply**: 0 = No; 1 = Yes)

- | | | | |
|-----------|-----|----|----------|
| a) Female | Yes | No | Declined |
| b) Male | Yes | No | Declined |
| c) Hijra | Yes | No | Declined |

Violence

Introduction: The following questions are quite personal. Let me again reassure you that your responses are completely confidential. **Your name shall not appear anywhere on this record.**

59. Have you ever hit or slapped your spouse?

0 = No (**GO TO QUESTION 61**)

1 = Yes (**GO TO QUESTION 60**)

9 = Declined to answer

60. If yes to the previous question, how did it happen? (open-ended):

61. Has your spouse ever hit or slapped you?

0 = No (**GO TO QUESTION 65**)

1 = Yes (**GO TO QUESTION 62**)

9 = Declined to answer

62. If yes to the previous question, how did it happen? (open-ended):

63. How often does your spouse hit or slap you?

0 = Never

1 = One time only

2 = Rarely

3 = Monthly

4 = Weekly

5 = Daily

7 = Do not know

8 = Not applicable (no to question 61)

9 = Declined to answer

64. Has your spouse hit or slapped you, within the past 3 months?

0 = No

1 = Yes

7 = Do not know

8 = Not applicable (no to question 61)

9 = Declined to answer

65. Has your spouse ever threatened to hit or slap you?

0 = No

- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

66. Has your spouse ever threatened to abandon you?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

67. Are you afraid of physical violence in your home?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

68. Are you afraid of abandonment by your spouse?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

69. Do you think that your spouse has ever gone to another person to satisfy his/her sexual desires while you have been married?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

70. Has your spouse ever threatened to go to another person to satisfy his/her sexual desires?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

71. Has your spouse ever become angry about sex and then not spoken to you?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

72. Has your spouse ever insulted you in front of other people?

- 0 = No
- 1 = Yes (find out under what circumstances, etc.)
- 7 = Do not know
- 9 = Declined to answer

73. Has your spouse ever hit your children other than for disciplinary purposes?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 8 = Not applicable (no children)
- 9 = Declined to answer

Knowledge and Attitudes

74. Had you heard of HIV/AIDS before your first sexual experience?

- 0 = No
- 1 = Yes
- 7 = Do not know
- 9 = Declined to answer

75. Please let us know how you feel about the following statements.

Statement	Disagree (0)	Neutral (1)	Agree (2)	Do not know (7)	Declined to answer (9)
a. If a wife suggests using a condom, the husband should agree to use a condom.					
b. It is acceptable for men to have sexual relations outside of marriage.					
c. It is OK for a man to hit his wife if she does not do as he says.					
d. Boys should be fed more food than girls when there is not enough food for everybody.					
e. Intake of alcohol before sex often leads to violence.					
f. It is acceptable for women to have sexual relations outside of marriage.					
g. Men should control all household finances.					
h. It is OK to limit girls to primary school education even if the boys receive higher education.					
i. It is OK for a man to force his wife to have sex even if she refuses.					

Previous HIV Tests

76. Have you had an HIV test before?

- 0 = No (**GO TO CONCLUSION SECTION**)
- 1 = Yes (**GO TO QUESTION 77**)
- 7 = Do not know
- 9 = Declined to answer

77. If yes to previous question, what type of test was done?

- 0 = ELISA
- 1 = Blot
- 2 = Other (please specify) _____
- 7 = Do not know

- 8 = Not applicable (no to question 76)
 - 9 = Declined to answer
78. If yes to question 76, what was the result?
- 0 = Negative
 - 1 = Positive
 - 2 = Other
 - 7 = Do not know
 - 8 = Not applicable (no to question 76)
 - 9 = Declined to answer

Conclusion

We have now come to the end of the interview. We thank you for your time and cooperation. Are there any questions you would like to ask us?

79. Time at end of interview:

80. Language of interview:

- 0 = Tamil
- 1 = Telugu
- 2 = Hindi
- 3 = English
- 4 = Other (please specify) _____

81. Interview terminated before completion

- 0 = No
- 1 = Yes → REASON _____

HIV Test Results

Self	Elisa: 0 = Negative 1 = Positive	WB: 0 = Negative 1 = HIV-1 Positive 2 = HIV-2 Positive 3 = HIV-1 and HIV-2 Positive 4 = Indeterminate 5 = Not performed
Spouse	Elisa: 0 = Negative 1 = Positive	WB: 0 = Negative 1 = HIV-1 Positive 2 = HIV-2 Positive 3 = HIV-1 and HIV-2 Positive 4 = Indeterminate 5 = Not performed

APPENDIX 5: CASTE CATEGORIES

Tamil Land-owning/ Merchant Castes	Telugu Land-owning/ Merchant Castes	“Backward Classes”	Scheduled Castes, Scheduled Tribes, Harijan	Other Castes
Chettiyar Chowdri Kappu Mudaliar Mudaliyar Muthaliyar Nair Telugu Chettiar Thevar Vaisya Vaisyas	Baliya Baliya Naidu Balijah Balji Naidu Balya Kamma Naidu Reddy	Achari Achary Aranadu Vellalar Aranathu Vellalar Chengundha Mudaliyar Chowdas Goundar Gounder Gowndar Kaunder Kavundar Konga Velalar Kongu Velalar Kongu Vellalar Koundar Kounder Kounder Vellalar Kudumba Gowndar Mutharasi Nadar Naikar Naiker Sadhu Chettiyar Sadhu Chettyar Telugu Vanniar Vanniyar Vellalar Yadava Yadaval Yerukula	Harijan Harijan Hindumala Kammar Malaimaan Malamaan Scheduled Caste Scheduled Tribe	Danda Doodiekula Saibulu Eraku Eruku Gollah House Chettiar Krishnamas Kumbara Lathamam Madhaya Mallaparam Most Backward Class Mudras Pallasalar Panabhaka Udayaar Vaddi Vadrol

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