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A cross sectional study to measure prevalence of Hepatitis B and HIV and explore the potential risk factors for the acquisition of these and other sexually transmitted infections among antenatal care attendees in a tertiary care center of West Bengal, India

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Epidemiology

by

Sanchita Mahapatra

2016

ABSTRACT OF THE DISSERTATION

A cross sectional study to measure prevalence of Hepatitis B and HIV and explore the potential risk factors for the acquisition of these and other sexually transmitted infections among antenatal care attendees in a tertiary care center of West Bengal, India

by

Sanchita Mahapatra

Doctor of Philosophy in Epidemiology

University of California, Los Angeles, 2016

Professor Roger Detels, Chair

Objectives

To estimate the prevalence and socio-demographic and behavioral correlates of HIV and Hepatitis B among ANC attendees in a public tertiary care center in Kolkata, West Bengal, India

Methodology

A cross-sectional study was conducted involving consenting adult pregnant women attending the antenatal clinic of a public-sector tertiary care hospital in Kolkata, between January and June,

2016. Anonymous data was collected from 1670 randomly selected subjects, using a color-coded, audio-integrated, tablet-PC assisted, pre-recorded, self-interview system developed in an algorithm based android platform with a non-response rate of 3%.

Findings

Among participants. 1.66% were HIV-positive while 2.74% had Hepatitis-B. Having extra-marital relationship was associated with Hepatitis B infection. Higher age, poor education, higher parity, alcohol consumption by husbands before sex, history of syphilis/genital ulcer or swelling and higher self-perceived HIV risk were associated with HIV sero-positivity. Higher age at marriage and graduation or higher education were the factors negatively associated with ever having sex with someone who consumed alcohol. Relatively older participants had higher while high-school or more educated subjects had lower odds of having extra-marital sexual relationship. Rural respondents were more likely to engage in paid sex. Rural-living husbands, those having high-school or more education and business-owners were less likely to have sex with the respondents always after consuming alcohol. Higher age of respondent was negatively and graduation or above education was positively associated with husband having vaginal sex during respondent's pregnancy. Odds of verbal abuse/bad behavior during sex by husband was positively associated with wife's age and lower among high school-educated husband, and wives. Physical abuse during sex was more likely experienced by respondents with higher age of respondent, Muslim religion and less likely among high-school or more educated.

Conclusions and Recommendations

HIV/STI related counseling strategy need revisit and re-orientation to shift the focus from individual perspective to couples' joint responsibilities so that concurrent counseling/treatment of partners receive priority especially the high-risk group. Proper management of STIs during pregnancy needs multifaceted approach which includes quality epidemiological data, good evidence of effectiveness of ongoing interventions, increase accessibility to reproductive health care services, stronger advocacy and commitment to get them implemented.

The dissertation of Sanchita Mahapatra is approved.

Zuo Feng Zhang

Onyebuchi Arah

Donald E. Morisky

Roger Detels, Committee Chair

University of California, Los Angeles

2016

Dedicated to

my parents:

Mrs Minati Ray

Mr. Pradip Kumar Ray

TABLES OF CONTENTS

LIST OF TABLES

Appendix:

LIST OF FIGURES

Methods

LIST OF ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ANC:	Antenatal Natal Care
AOR:	Adjusted Odds Ratio
ART	Antiretroviral therapy
HIV	Human Immunodeficiency Virus
NACO	National AIDS Control Organization, India
OR:	Unadjusted Odds Ratio
STI:	Sexually Transmitted Infections
WHO:	World Health Organization
95%CI:	95% Confidence Interval

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A CROSS SECTIONAL STUDY TO MEASURE PREVALENCE OF HEPATITIS B AND HIV AND EXPLORE THE POTENTIAL RISK FACTORS FOR THE ACQUISITION OF THESE AND OTHER SEXUALLY TRANSMITTED INFECTIONS AMONG ANTENATAL CARE ATTENDEES IN A TERTIARY CARE CENTER OF WEST BENGAL, INDIA

INTRODUCTION

GLOBAL BURDEN

Sexually transmitted Infections (STIs) are a major public health problem affecting more than 1 million people every day worldwide.[1] Although over 30 different infectious agents are transmitted primarily through sex, the more common infections are chlamydia, gonorrhea, syphilis, trichomoniasis, genital herpes, hepatitis B, human papilloma virus and HIV.[1, 2] As per the WHO estimate about 357 million new infections occur every year with one of four curable STIs included chlamydia (131 million), gonorrhea (78 million), syphilis (5.6 million) and trichomoniasis.(143 million) [1] Currently >500 million people are infected with herpes simplex virus and >290 million women with a human papilloma virus.[1] The most recent estimate by the World Health Organization (WHO) indicated that about 240 million people are chronically infected with hepatitis B virus and >686000 people die due to its complications including cirrhosis and cancer in a year.[3] STIs are of great concern in most countries of the world because they predominantly affect adolescents and young adults,[2] carry some level of social stigma,

affect personal relationships, facilitate acquisition and transmission of HIV and have serious reproductive health consequences. [1, 4]

Women and adolescent girls are disproportionately affected by STIs. It is estimated that 1 in 20 adolescent girls acquire a bacterial STI in a year.[2, 5] Certain biological factors that included relatively large surface of the vaginal mucosal surface, specialized columnar epithelial cells lining of the cervix, specialized receptors in vaginal wall and vaginal pH increase a woman's vulnerability to STI acquisition.[2] Other issues included lack of awareness regarding sexual health, asymptomatic nature of the infection, stigma associated with genital symptoms and poor health seeking behavior.[6] The risk of acquiring STIs is greatest among pregnant women because of inextricable link between pregnancy and unprotected vaginal intercourse. Evidence suggests that some physiological changes during pregnancy can alter the natural history of an STI and further elevated increase a woman's risk of acquiring an STI.[2, 7] Furthermore, viral STIs during pregnancy are mostly asymptomatic, persistent, under diagnosed and often difficult to treat which can create potential complications for the pregnancy.[8, 9]Although frequency of sexual activities in women are likely to reduce during pregnancy but most early stage first trimester primigravid women may unknowingly engage in more sexual acts resulting into higher prevalence of STIs among them. For example, of 15 million new cases of STIs among Americans aged 15-49 years about 2 million (13.3%) occur in pregnant women.[10]

The prevalence of STIs is quite high in developing countries accounting for 80-90% of the global burden of curable STIs.[2] They are one of the top five reasons for seeking health care among adults.[5, 11] In terms of burden, countries with reported highest prevalence rates in 2006 were sub-Saharan Africa followed by Latin America and the Caribbean and South and Southeast Asia.[2] STIs are responsible for significant loss of disability adjusted life years (DALYs) in

developing countries as majority of population is below 40 years. Loss in DALYs is relatively more among women of reproductive age compared to men. Furthermore, because of this skewed distribution of young population, especially in Asian countries, largest number of curable STIs were reported from that part of the world imposing a huge burden on the health care system and health care expenditure.[2] Despite their burdens of morbidity and mortality, costs and complications and the fact they are largely preventable, STIs are often overlooked as a public health priority in resource e poor settings.

INDIAN SCENARIO

STIs are major public health concerns in India. Assuming 6% of the adult population in India has one or more STIs (as reported by the Indian Council of Medical Research in 2002-03), it is estimated there are about 30-35 million episodes of STI in a year.[5] As per the National ADIS Control Organization (NACO) estimate, approximately 40% of women have an STI at any given point in time.[5] Over the past 30 years there had been a decline in bacterial STIs (syphilis, gonorrhea) and gradual rise in viral STIs included genital herpes, hepatitis B etc.[12-15] Currently, there are about 1152 designated STI clinics with one trained counselor across the country with at least one in each district under Obstetrics & Gynecology outpatient department and Dermato-venerology clinics. These STI clinics are supported by the NACO that included provision of central supply of color coded drugs, RPR kits, consumable for conducting basic laboratory tests and computers for keeping records. Data related to STI syndrome and syphilis screening among STI and Antenatal Care (ANC) clinic attendees are stored by means of the computerized management information system. [5] According to NACO estimates, approximately 34.9 million with an average of 2.6-10 million per year episodes of STI received treatment from designated

STI clinics between 2007 and 2012.[16] However, due to non-availability of sensitive diagnostic tests and lack of trained personnel along with poor reporting system (incompleteness and inconsistencies), the prevalence estimates of STIs based on data from these service facilities are less reliable in India. In addition, asymptomatic STI cases particularly among women are missed out during routine check-ups in designated clinics and patients reporting elsewhere (private sector, pharmacies, traditional healers) are not captured.[16] The clinic use syndromic assessment techniques.[16] Studies estimating the burden of STIs in general population in India were limited. A community-based study conducted in Mysore, Karnataka found the prevalence of STIs (chlamydia, gonorrhea and syphilis) to be 2.8% for men and 1.8% for women.[17] Another study among adults in Tamil Nadu found an overall prevalence of STI including HIV and hepatitis B was 14.6%.[18] Screening of asymptomatic STIs among pregnant women are almost non-existent in India, even at tertiary care hospitals. A survey among low-income communities in Chennai found a high prevalence of Herpes simplex 2 infection, though most of the infection was asymptomatic.[19] A more recently published paper by Jindal et al. found a relatively high prevalence of hepatitis B (2.4%) and herpes simplex-2 (2%) infections among asymptomatic pregnant women attending antenatal clinic in Punjab.[20] Alike in other developing countries, the syndromic case management based on the recognition of a constellation of clinical signs and symptoms suggestive of STIs remains the main stay of treatment in this part of the globe.[5]

HIV- INDIAN PERSPECTIVE

India continues to be the one of the highest contributor to global HIV epidemic. An estimated 2.11 million people are currently living with HIV in India with an estimated adult prevalence of 0.26% (0.22% to 0.32%) at the end of 2015. Approximately 86000 new HIV infections and

67600 people died of AIDS related complications during 2015 in this country.[21] HIV epidemic in India is largely heterosexual but heterogeneous, mostly concentrated in high risk groups. Although adult HIV prevalence at national level showed a steady decline in the past decade from 0.34% in 2007 to 0.26% in 2015, there is a marked heterogeneity in HIV prevalence across states and different risk groups. Based on adult HIV prevalence proportion, the country is divided into three distinct zones: high, medium and low prevalence states. The states in north-east are considered as the highest HIV prevalent states [Manipur (1.15%), Mizoram (0.8%) and Nagaland (0.78%)], southern part [Andhra Pradesh (0.66%), Karnataka (0.45%)] and western part [Gujarat (0.42%) and Goa (0.4%)].[21]

In response to HIV epidemic, the Government of India implemented a nationwide HIV control program (HIV Sentinel Surveillance) to reduce the risk of HIV acquisition and transmission. This program includes an opt out approach for HIV testing, counseling, distribution of condoms and provision of antiretroviral therapy. The sentinel surveillance remained the main instrument in estimating the magnitude of and trends on the HIV epidemic among different sentinel groups. Since the beginning of the HIV epidemic in India pregnant women attending antenatal care (ANC) clinics are considered as a low-risk sentinel group and frequently used as a proxy to monitor HIV infection and behavioral risk factors in general population. According to the Annual Report 2015-16 by the NACO, there are more than 18000 of Integrated Counseling and Testing Centers (ICTC) in the country offering HIV counseling and testing services to general clients including pregnant women. Counseling and testing of high-risk groups (HRG) and STD clinic attendees are also an essential component of HIV control program in India. An estimated 6.85 million general clients, 5.32 million pregnant women, 0.734 million high-risk groups and 0.43 million STI clinic attendees were tested for HIV during 2015-16.[21]

With the aim of elimination of new HIV infection among children, the Government of India initiated Prevention of Parent to Child Transmission (PPTCT) of HIV under the National AIDS Control Program (NACP) in 2002 using single dose Nevirapine prophylaxis for HIV positive mothers during labor and newborn immediately after birth.[21] However, since January, 2014 PPTCT program adopted using lifelong triple drug Anti-Retro Viral (ART) regimen as recommended by the World Health Organization (WHO) in a phased manner for all pregnant and breastfeeding women irrespective of CD4 count, clinical stage of the disease and duration of pregnancy.[21] In addition, infants born to HIV positive mothers have to undergo DNA-PCR tests [using dried blood spot (DBS) and whole blood regimen] at designated ICTC centers at regular interval.[21] Infants found to be reactive in DBS test are referred to corresponding Pediatric Centers of Excellence for appropriate delivery of care, support and treatment. At present there are seven functional Pediatric Center of Excellence in the country. The first line ART is provided at free of cost to all eligible people living with HIV through ART centers.[21]

HEPATITIS B-INDIAN PERSPECTIVE

A previously published systematic review and meta-analysis of prevalence of hepatitis B in India found a prevalence of 2.4% among adult Indian population and 15.9% among tribal population with marked heterogeneity across states.[22] A more recent report by Datta et al., indicated that HBsAg prevalence in general population ranged between 2% and 8%, placing India in intermediate hepatitis B endemicity zone.[23] Approximately, there are about 3% hepatitis B carriers in this country with much higher prevalence in the tribal population.[24] With an estimated 40-50 million chronic carriers India is the second largest contributor to global burden of hepatitis B.[23] Although mother-to-child transmission remained one of the major routes of

hepatitis B infection, it is probably underestimated in this country.[24] About 1 million of 26 million infants born every year in India have risk of developing chronic hepatitis B infection in their life.[24,26] However, there is paucity of information regarding hepatitis B infection among pregnant women in India. A review by Narayanswamy et al. found that overall prevalence of hepatitis B infection among pregnant women across different states in India ranged between 1% and 9%.[26] Another cross-sectional study by Mehta et al found sero-positivity of hepatitis B among antenatal care attendees in Gujarat was 2.9%.[12] Another point of concern is that difference in hepatitis B transmission risk including intra-uterine transmission, severity of disease and outcomes might be attributable to variations in genotype distribution and mutations in the hepatitis B virus genome.[15, 27] According to Datta et al., molecular characteristics of hepatitis B was found to be naturally distinct due to presence of genotypes A, C and D in eastern part compared to other parts in India. Hepatitis B infection appeared to be prolonged and were associated with higher viremia and higher mutations due to the presence of three different genotypes A, C and D,.[23] Prevalence of genotype was found to be associated with familial/childhood jaundice while genotypes C and D appeared to be more frequent among individuals with possible percutaneous injury.[28] Therefore, good epidemiological data on hepatitis B infection along with its risk factors may be useful in disease prognosis, management and designing prevention strategies to tackle the spread of the disease.

WHY STIs REMAIN A PUBLIC HEALTH CONCERN?

If left undiagnosed and untreated, STIs pose great public threat to pregnant women and neonatal health. The spectrum of negative reproductive health outcomes following STIs included increased risk of HIV acquisition, cervical cancer, pelvic inflammatory disease, ectopic

pregnancy and infertility and all of them can result in significant morbidity and mortality. [2, 5, 10] Approximately 10% to 40% of untreated chlamydial infection contribute to symptomatic pelvic inflammatory diseases and 30-40% infertility is attributable to post infection tubal damage. HPV is associated with almost all cases of cervical cancer (second most common cancer in women) cases.[25] Adverse outcomes of mother-to-child transmission ranges from stillbirth, neonatal death, low-birth-weight and prematurity, sepsis, pneumonia, neonatal conjunctivitis to congenital malformations.[1] Syphilis infection during pregnancy may result into a plethora of adverse pregnancy outcomes which includes early fetal loss, stillbirth, prematurity, low birth weight, neonatal and infant death and congenital disease.[29] In 2012 about 350000 adverse birth outcomes including stillbirth were reported among 900000 pregnant women who were infected with syphilis.[1] Mother-to-child transmission of HIV during pregnancy has devastating consequences among newborns which are largely preventable. It is estimated that without any intervention the HIV transmission risk ranges from 15% to 45% among children born to infected mothers.[23] However, the risk can be reduced to <5% with appropriate interventions during pregnancy, labor, delivery and postpartum included HIV testing, antiretroviral use, scheduled cesarean section and avoidance of breastfeeding.[23] Furthermore, HIV in pregnancy has been associated with an increased risk of infant death.[30, 31] It was estimated that up to 35% of HIV infected newborns had risk of dying before reaching the first year of life.[30] Transmission of hepatitis B from mother-to-child can result in chronic infection, liver cancer and liver failure. Age of acquisition of hepatitis B is an important predictor of disease outcome. About 80-90% and 30-50% of infants may develop chronic infections if they acquire hepatitis B during first year and before age of 6 years, respectively. [2, 3] It was estimated that globally about 57% of cirrhosis and 78% of hepatocellular carcinoma were attributable to either hepatitis B or hepatitis

C infections.[32] The highest burden of chronic hepatitis B infection is reported from sub-Saharan Africa and East Africa with a prevalence proportion of 5-10% followed by Middle East and Indian subcontinent where about 2-5% adults are chronically infected.[3] Majority of hepatitis B infection in these poor settings are transmitted from mother to child at birth followed by parenteral transmission.[2, 6] However, up to 95% hepatitis B infection and its complications can be prevented by vaccine at least up to 20 years or probably lifelong.[3] Yet their impact is often unrecognized by global health policy makers and STI surveillance as well as STI management are poorly resourced and staffed.

Researchers have argued that reported STIs only represent the tip of the iceberg as most of them are asymptomatic. Majority of individuals infected with STIs experience no symptoms or mild ones that are often unrecognized, particularly among women.[2, 5] The symptoms are non-specific which include vaginal/urethral discharge, inguinal swelling, painful micturition, vaginal itch, inguinal swelling and abdominal pain.[1, 5] However, asymptomatic cases shed the infective organism and spread the disease to their regular sexual partners and/or new partners.[1] Furthermore, lack of adequate data in developing countries further complicated the scenario of estimating actual burden of STIs which is grossly under-estimated.[2]

Although asymptomatic infections are diagnosed early in developed countries, detection of possible STIs is often late in resource poor settings and patients come to clinical attention only when complications arise. Shame, stigmatization, ignorance and self-treatment (over the counter drugs or traditional healers) further complicate the STI management in developing countries leading high rates of STI-related complications. In most developing countries, diagnostic testing is either unavailable or often costly and geographically inaccessible. [2, 6, 19] The only routine tests available for pregnant women are for syphilis and HIV in almost all countries in the world while

hepatitis B in some part. Therefore, syndromic management remains the realistic approach for individual case management.[33]

RATIONALE

Researchers strongly emphasized the need for development of affordable, rapid and point of care screening tests for STIs in resource constrained settings so that the diagnosis and early management of this largely silent epidemic could be enhanced. Given bacterial STIs (chlamydia, gonorrhea, syphilis) are largely curable with existing single-dose regimens of antibiotics and the course of viral STIs (HIV, hepatitis B, herpes simplex and Human papilloma virus) can be modified with available antiviral treatments and vaccines.[1] it is imperative that early diagnosis and prompt treatment should receive highest priority. However, they had been neglected as a public health priority and current efforts to control the spread of STIs appeared to be insufficient.[33] Given behavior change is complex, screening and subsequent treatment of at-risk population particularly the asymptomatic cases remain the cornerstone of STI management. In addition, appropriate case management and prevention of STIs will also accelerate the attainment of Millennium Development Goals of reducing infant mortality, improving maternal health and reducing HIV incidence.

Regardless of its importance, published information on STIs and high risk behaviour among pregnant women is scarce in India. Although pregnant women were perceived as a low HIV risk population in India, yet a significant number of new HIV infections were reported among stable heterosexual couples.[34] An interplay of socio-cultural norms, gender inequalities, lack of economic empowerment and social autonomy put Indian women at higher risk of intimate

partner violence. Apart from biological factors, failure to negotiate for safe sex or to refuse unwanted sex with their husbands or intimate male partner heightens their risk of STIs including HIV.[35] Currently there are about 39% women living with HIV in India.[35] Yet, sexual risk-reduction interventions targeting married women are limited and data regarding their own risk perception, STI-related knowledge and sexual behaviour are scarce. Given about 27 million Indian women who get pregnant each year, prevention of STI-related adverse outcomes among mother-infant dyad seems crucial. The evidence base for STI prevention in India is still dispersed and non-standardized. Previous studies explored HIV related knowledge, awareness and attitudes,[36-38] facilitators and barriers of perinatal testing[39] and risk of mother-to-child transmission[40] but none had determined the predictors of STI including HIV sero-positivity among pregnant women. Findings from this study will likely to help in generating mathematical modelling to predict the potential risk factors of STI acquisition among pregnant women in India. Given most of STIs asymptomatic, tracking and assessment of the burden of symptomatic and asymptomatic STIs in a defined population appear to be the most effective strategy to contain STIs including HIV in this poor country. Moreover, getting access to this high-risk population is much easier and exploring their sexual health will be comparatively less complicated than other sentinel groups.

PUBLIC HEALTH IMPLICATIONS

To ensure optimum utilization of the data generated from any public health research and optimum translation of its findings into public health intervention, consequent policy and action, a few integral requirements are needed to be met through the planning and design of the said research.

a. Determining the appropriate at-risk population for the particular research and intervention

b. Proper identification of the said population during actual recruitment for the research

c. Having an in-place, up and running public health care delivery system designated for the said population

d. Ensuring maximum compliance of the said population to the research protocol and (if applicable) the intervention

ANC attendees in a tertiary care centre meet the aforementioned requirements perfectly as explained below and thus were chosen as the appropriate study population for the current research for addressing the study-objectives (mentioned below).

a. Regarding acquisition of STIs including HIV, syphilis and hepatitis B and their health consequences, pregnant and their baby-in-utero were very much at risk. Thus by addressing the ANC attendees through control programs informed by the findings of this research, the whole spectrum of acquisition and complications of these silent, mostly asymptomatic onset ailments could be successfully prevented

b. Identification of ANC attendees are generally comprehensive, hassle free and systematic owning to the definition of the population of not being associated with social undesirability rather individual emotional and system-based operational drives emphasized on their 100% registration in to the public health delivery system. In Kolkata West Bengal the study area for this research this proportion of identification through pregnancy registration was almost 100%.

c. The existing ANC clinics and ANC service delivery system were the perfect public health delivery platform for conducting this research and delivering the consequent interventions

d. Inclination for participation, adherence to the research protocol and compliance to the subsequent intervention schedules were likely to be extremely high among the ANC attendees

owning to the emotional drive, perceived importance and concern regarding well-being of the baby and herself.

Thus, given the dearth of relevant quality information from eastern part of India conducting this research among ANC attendees of a tertiary care hospital in Kolkata, West Bengal, India was considered to be a rational and optimized approach to determine the burden of HIV, syphilis and hepatitis B infections and identification of the potential proximal factors for their acquisition.

STUDY OBJECTIVES

The specific objectives of the study were:

1. To estimate the prevalence of HIV, hepatitis B and syphilis among antenatal care attendees in Kolkata, West Bengal

2. To determine the distribution of socio-demographic characteristics, obstetric history and symptoms of HIV, hepatitis B and syphilis among antenatal care attendees in Kolkata, West Bengal

3. To measure the knowledge, attitude and perception of the antenatal care attendees in Kolkata, West Bengal regarding sexually transmitted infections (STIs) including HIV

4. To determine the distribution of STI-related risk behaviors among antenatal care attendees in Kolkata, West Bengal

5. To measure the association of socio-demographics, STI-related knowledge, perception and behavioral factors with HIV, hepatitis B and syphilis sero-positivity among antenatal care attendees in Kolkata, West Bengal.

METHODS

STUDY DESIGN

A cross sectional study was conducted among pregnant women attending the antenatal clinic of a tertiary care hospital serving part of the metropolitan area of the city of Kolkata, suburbs and some rural populations in the state of West Bengal, India between January and June, 2016.

STUDY AREA

The state of West Bengal is in the eastern region of India and is the nation's fourth most populous state. The state is also the seventh most populous sub-national entity in the world. In terms of its contribution to India's GDP, West Bengal ranks 6th. West Bengal, together with Bangladesh lying on its east, forms the historical and geographical region of Bengal. West Bengal is divided into 19 administrative districts namely Bankura, Bardhaman, Birbhum, Cooch Behar, Darjeeling, East Midnapore, Hooghly, Howrah, Jalpaiguri, Kolkata, Malda, Murshidabad, Nadia, North 24 Parganas, North Dinajpur, Purulia, South 24 Parganas, South Dinajpur, West Midnapore.[41]

Health care delivery under West Bengal government is distributed in 9 tiers, the top rung of which is formed by 9 medical college hospitals that share about 11,150 beds (approximately 20% of total beds under government set up) among themselves. The subsequent tiers are formed by district hospitals (16 in number, 7,722 beds in total), sub divisional hospitals (45, 8,996 beds), state general hospitals (34, 3,904 beds), other hospitals (33, 7,737 beds), rural hospitals (95,

3,669 beds), block primary health centres (253, 6,523 beds), primary health centres (924, 6,739 beds and sub centres (10,356 in number) which form the lowest tier without any in-patient facilities. In addition, there are 68 hospitals, which are run under different departments of the West Bengal government (other than health) accounting for 6,028 beds. Hospitals under government of India (54 in number) and local bodies (31 in number) share about 5,946 and 960 beds, respectively. A significant portion of curative health care burden is borne by the 2001 private and NGO run institutions, housing about 32,458 beds in combination.

The present study was conducted in the capital city of Kolkata, West Bengal. It is a metropolitan city located in the eastern part of India with a population of 4,486,679 and area approximately1380 sq. kilometers. The city is adjacent to Howrah, Hooghly, Nadia, 24 Parganas (North) and 24 Parganas (south) districts of state of West Bengal.

STUDY SITE

R G Kar Medical College and Hospital is a tertiary care government hospital and medical school located in Belgachia locality of north Kolkata, West Bengal, India. The institution was established as Belgachia Medical College, a private medical school, in 1916 and was taken over by Government of West Bengal in 1958. The administration of the hospital is under Director of Health Services of Government of West Bengal. The academic division of the institution is headed by the Principal while the Medical Superintendent cum Vice Principal heads the administration. The hospital currently runs 31 specialized departments catering to a population of about 20 million residing in North Kolkata, 24 Parganas (North) and Nadia districts of the state of West Bengal. Being a tertiary care centre, the hospital provides health services to the critical

patients referred by the sub-divisional and district level hospitals within its catchment area as well as the patients visiting on from distant towns. Approximately 1500 patients attend the outpatient and emergency departments of R G Kar. It is a hospital having overall 2000 beds and 400 of those beds are designated for admitting Gynaecology and Obstretics patients. Extensive patient load creates a huge burden for this hospital.

Figure1. A. Location of study area (Kolkata) & B. Study site (R. G. Kar Medical College)

R. G. Kar Gynecology and Obstetrics Department has 400 beds approximately and an estimated 16,500 deliveries take place every year (amongst the highest in a single institution in India) besides almost 1,200 gynecological surgeries. Approximately 350-500 mothers attend the antenatal outpatient department every day and on average 70 antenatal mothers get admitted each day for delivery or delivery related complications. The Gynecology and Obstetrics department also provides other reproductive and child health services like immunization, prevention of mother to child transmission and family planning services, which are jointly run with Ministry of Health & Family Welfare and National Health Mission. These services are either provided for free or at minimum costs. Also, being a government run institution ante-natal services and delivery (including cost of medicines and equipment) are provided free to the families designated as below the poverty line.

The organizational structure of Gynecology and Obstetrics department consists of consulting physicians, resident medical officers, senior and junior residents besides nurses and para-medical staffs. For operational purpose the departmental support staff are distributed in 6 units- each unit consisting of 1 consulting physician, 2 resident medical officers, 2 senior residents, 4 junior residents and the required number of other staff. For each 24-hour period, one unit is designated the responsibility of the patients attending out-patient and emergency room and if any patient gets admitted during the period the same unit is deemed responsible for the in-patient care of that care attendee.

On her first visit to antenatal outpatient department (OPD), an expectant mother is provided with an OPD card for registration. The mother is requested to bring the card on her subsequent visits. She is then subjected to routine check-up where her vital parameters (height, weight, blood-pressure, pulse) are examined by on-duty nurses and junior residents and old medical records, if

available are also noted on the registration car as well as in hospital records. Advice on diet and healthy lifestyles are also provided at this stage. Then she is examined by senior residents and advised accordingly. If the mother needs admission or the resident suspects any complications, then she is referred to the other senior resident medical officer or consulting physician. In absence of any complications, the mother is usually advised to come back in 12 weeks if she is in the first trimester, 4 weeks if in second trimester and a week after, if, unfortunately, her first visit happens in the third trimester. Every antenatal mother is routinely prescribed vitamin and iron-folic acid supplements, which are supplied for free from the hospital pharmacy.

STUDY POPULATION

The eligibility criteria included pregnant women aged at least 18 years who attended the antenatal clinic of R. G. Kar Gynecology and Obstetrics Department for her routine antenatal check-up between January and June, 2016, did not participate before in the study, not suffering from any physical or psychological conditions that could prevent adequate communication and who agreed to participate and gave consent in favor of participation, providing access to their medical reports (past & present) and serological test reports.

FIELD PREPARATION, TOOL ASSESSMENT AND FINAL SETUP

After receiving ethical approval, the study protocol was briefed to the head (Principal) of R. G. Kar Medical College and Hospital, Head of the Gynecology Department, sister-in-charge of Obstetrics Department in-charge of PPTCT unit and registration officer of the antenatal unit. The current study was conducted after getting formal permission from the concerned authorities. A

setup was arranged in the antenatal OPD. Mock interviews were arranged with volunteer mothers during the pilot phase of the study to ensure the smooth conduct of the study.

Prior to the start of the study, a research team was formed for the efficient conduct of the study. Female persons having experience of data collection in public field and familiar with antenatal care clinic infrastructure of government hospital in Kolkata were recruited and properly trained to conduct prompt and efficient interviews under the guidance of experienced researchers of the National Institute of Cholera and Enteric Diseases, Kolkata. During this brief training period a detailed description of the study protocol including its aims, study area, eligible subjects, recruitment and sampling strategy, informed consent, data collection tools (questionnaire and software), ethical issues, data cleaning and data analysis were given by the primary investigator followed by hands on training for handling the data collection tool. During this phase validation of the questionnaire was performed and necessary modifications/changes were made accordingly.

SAMPLE SIZE CALCULATION

The required sample size for the proposed study was calculated according to the conventional cross-sectional study sample size calculation method as explained below. The actual sample size was based on this statistical computation as well as on available time and budget.

Outcome variable of interest

Sample size calculation for this study was done considering two different outcome variables. One of the outcome variables was the status of the participants in terms of the STI investigation results (positive/negative), and the other, STI related knowledge and attitude level, constructed

from the information obtained from the questionnaire based survey on knowledge and attitudes of the respondents regarding sexually transmitted diseases.

Independent variables of interest and other covariates

Different socio-demographic and economic factors was either considered as the independent variables of interest or covariates based on our contextual background knowledge while analyzing their association with STI related knowledge and attitude and STI status.

Sample size for outcome variable:

For the study, sample size was determined using cross sectional study sample calculation method of EPI INFO software. In absence of definitive population parameters from the study area for the detection of the sample size, the calculations were made based on the following assumptions:

• Significance level (α): Defined as probability of rejecting a true null hypothesis, also known as Type-I error. For this study alpha (α) level was fixed to 0.05.

• Power: Defined as the probability of rejecting a false null hypothesis. Expressed as 1- β where beta (β) is defined as probability of accepting a false null hypothesis. β is also known as Type-II error. For this study power was fixed to 80%

• Ratio of the number of unexposed to the number of exposed was assumed to be 3:1

• Expected prevalence of outcome among unexposed group was assumed to be 5%

• The minimum value of Odds Ratio (OR) that could be detected by the study was hypothesized to be 2

The sample size calculation was based on the following formula:

$No= [Z\alpha [(r+1)P(1-P)]^{1/2}+ Z\beta [P0(1-P0)+rP1(1-P1)]^{1/2}]^2 /(P1-P0)$

Where,

α = Probability of Type-I error

β = Probability of Type-II error

r = Ratio of number of unexposed people and number of exposed people (r= N0/N1)

P = Prevalence of outcome in total population

P1= Prevalence of outcome in exposed population

P2= Prevalence of outcome in unexposed population

Hence based on the aforementioned assumptions and formula, to determine an odds ratio of 2 with 80% power and 95% precision, 1404 subjects were required to be recruited in the study. Assuming a non-response of 20%, 1755 subjects were to be invited. Thus, it was decided that following the sampling strategy, 1760 subjects should be invited to participate in the study.

RECRUITMENT AND SAMPLING

Selection of study subjects was done from the row of only pregnant women waiting at ticket counter for the registration. This was the first step to get antenatal check-up in the respective Gynecology and Obstetrics OPD of the hospital. Two random numbers between 1-9 were generated by a computer each day morning before start of the recruitment procedure. The first number was discarded and second number was taken into consideration for the sampling interval for the day. A mother standing in the row at that position from the registration counter (taking into

consideration the first random number and sampling interval) was selected as the index (first) case for that particular day. She was then approached, counselled about the study and a printed copy of the inform consent written in a language that they clearly understood (local language, Bengali and Hindi) was given to her by the research team. The inform consent was read and explained to mothers who had issues with literacy. A mother was selected for the study only if selection criteria were fulfilled and if she was willing to participate. If an eligible mother was not willing to participate, then the next mother in the row was approached. The second mother was likewise selected based on sampling interval for the day. Pregnant lady standing at that position next to the index case in the row was chosen as the second subject provided selection criteria were fulfilled. The sampling process continued until the desired sample size was reached. Registration of the subject was then done followed by the routine procedure (measurement of height, weight and blood pressure of the mother) of the OPD. To ensure privacy and comfort, all interviews were conducted by female research assistants who were trained in data collection in a closed space of the hospital. Interviews were conducted every day except Sunday during working hours of obstetrics OPD.

After the routine registration of the eligible mother, the research assistant asked her if she was ready for the interview. Confidentiality of the provided information was also explained properly in a similar manner ensuring that they clearly understood participation or non-participation would not affect the intended medical care in the hospital and they were free to decline at any point during the interview. Antenatal mothers agreeing was recruited by the research team into the study after obtaining informed consents for the interview, access to medical records and testing results. This process continued in the ANC until the total number of recruited subject reached 1760.

In addition, with aim of comparing reporting between C-ACASI and interviewed-administered sexual behaviors, 10% of the total sample size (n=176) were interviewed by the designated female research assistants. Sampling strategy and recruitment procedure were performed in a similar way. After obtaining informed consent, eligible mothers were interviewed with the tablet in the same setting but without a headphone. The only difference with the former interviews was that mothers and interviewers listened to pre-corded questions and probable responses together. This ensured consistent question administration and minimized risk of interviewers' bias. All information was collected in an anonymous manner.

DATA COLLECTION TOOL

C-ACASI

A culturally appropriate questionnaire was prepared in both English and the local language (Bengali) after an exhaustive and robust literature review and the guidelines of reproductive and child health program (RCH) of India. The accuracy and completeness of data on sensitive and personal issues had been validated in previous Indian studies included poorly computer-literate, non-English speaking and pre-dominantly rural Indian populations,[42] young urban men,[43] and adolescents[44] and young married women.[45] The interview had two parts-interviewer administered and self-administered. In order to save time, information on non-sensitive or neutral issues including socio-demographic characteristics and obstetric history was collected by a trained female research assistant. After completion of the first part, participants were self-interviewed to gather information on sensitive issues included own sexual behavior, husbands' sexual behavior, STI including HIV related knowledge and attitudes, STI symptoms, health-

seeking behavior, treatment history and risk. The interview was conducted in a closed space for ensuring adequate privacy during the interview. The average length of interview varied between 45 minutes to 60 minutes. All data collected were anonymous without any personal identifiable information except the unique hospital registration number generated for each mother at the time of registration.

Color Coded-Audio Computer Assisted Self Interview software (C-ACASI) loaded in small tablet was used for the data collection. This new technique involved completion of self-administered questionnaire using a tablet and a headphone after listening to the pre-recorded audio simultaneously reading the questions, answer categories with specific instructions by displaying different distinct color on the touch screen. Participant responded to a specific question by selecting a color among the colors displayed on the computer touch screen. Each color indicated a probable answer for the respective question. To ensure further privacy neither the question or the response texts were displayed on computer screen. To make the data collection process more comfortable, earphones were also provided so that none other than subject could hear the question. The participant could replay the question and responses by pressing a specific sign (shown to the respondent) displayed on the upper left hand corner of the screen. Respondent had to select a response for a question before proceeding to the next question indicated by a bold line and “Proceed” displayed below. There was no option of going back and modify the responses once this “Proceed” was pressed. The end of the interview was indicated by displaying “Thank you” and a unique code specific which was generated for each participant. Data were automatically stored in the centralized database through tablets equipped with internet access and were available almost immediately. Before start of the interview C-ACASI was demonstrated to each subject about how to use a tablet and a headphone with the help of demo

questions. To ensure further privacy of the subjects, the interviewer waited outside the room during this period but was available for any questions or help. After entering the responses, a tab-delimited text record file was generated for checking the completeness. Both hospital registration number and this tab-generated code number were recorded by the interviewer.

The advantages of C-CASI were substantial. Apart from being flexible and convenient, confidentiality was completely ensured during data collection process. It allowed participants to privately answer sensitive questions comfortably using headphones. It provided consistent questionnaire delivery and worked well among mothers with poor literacy. It also eliminated data entry time and errors. Missing data and out of range responses could be avoided as possible response to the prior question was required in order to proceed to the next question when using C-ACASI software. In addition, as C-ACASI required respondents to give an answer before moving to the next question, it also helped to determine how question sensitivity influenced item non-response. Furthermore, as C-ACASI was preprogrammed to skip patterns, it was saved time and was easy to navigate.

At the end of the interview, the interviewer asked about the presence of any STI related symptoms and entered into tab by the interviewer. To save time each interviewed mother was not sent back to the queue but was taken to the consultant obstetrician in charge of the outpatient department on that day for routine obstetrical examination by the research team and if mother reported any symptom suggestive of a STI, the research assistant informed the treating physician.

After the routine pregnancy check-up, usually as per the routine process of the Governmental antenatal clinics in India, attendees were routinely tested for HIV, syphilis and hepatitis B at designated ICTC at R. G. Kar Hospital. The pregnant women collected their test results either on same day or on subsequent visits from the ICTC. Research team collected the required

serological reports (of HIV, syphilis and hepatitis B) from hospital records of each interviewed mother matching unique hospital registration number which was also entered in laboratory register either on the same day of the interview or the subsequent day. The serological reports of each interviewed mother were entered into tab by matching both the hospital registration number and tab-generated unique code number by the interviewer.

Information collected are summarized below:

A. Socio demographic variables: age, income, education, religion, educational level, current working status, place of residence (Urban/Rural), husband's age and occupation, age at marriage, whether husbands stayed away from family for 66 months or more at a stretch

B. Obstetrics history: gravida, parity, history of abortion, years since last child born, number of male child born, expected date of delivery and history of stillbirth

C. STI related knowledge: basic knowledge, STI-related symptoms, basic knowledge about HIV, routes of transmission and complications

D. Attitude towards HIV/AIDS

E. Husbands' sexual behavior and their sexual experience

Alcohol consumption before having sex, sex during pregnancy, verbal abuse during sex, physical abuse during sex, extra-marital relationships, sex with a commercial sex worker, self-rating of sexual experience with husband and decision to use condom

F. Own sexual behavior and experience

Age at first sex, sex before or after marriage, forced sex, anal sex, sex after alcohol consumption, use of condom, reasons for not using condom, sexual relationship with another male other than

husband, history of multiple partner, use of condom with other male partner, sex in exchange of money/gifts and history of receiving injections ever

G. Past history of STI-related and other symptoms in the past 6 months

STI-related symptoms included abnormal vaginal discharge, burning sensation during micturition, any lesion/ulcer in private parts, itching in private parts, lower abdominal pain, swelling in groin. Non-STI related symptoms included passage of yellowish/dark colored urine, yellowish discoloration of eyes and skin, fever and loss of appetite and nausea/vomiting

H. General and STI-related health seeking behavior: Past history of symptoms suggestive of STI

I. Perception of risk for STI including HIV

J. Health perception, own and husbands' STI related medical history

K. Current symptoms of STI including Hepatitis B and HIV

LABORATORY TESTING

Although the current study did not involve any blood collection and serological reports were based on routine blood testing conducted in the hospital.

Hepatitis B

The test kit used to detect the presence of surface antigen of hepatitis B virus (HBsAg) was SD BIOLINE HBsAg Rapid Test Kit. It is an in vitro, immuno-chromatographic, one step rapid assay for qualitative determination HBsAg in human blood serum or plasma with sensitivity ≥99% and specificity ≥98%. The test kit contains a membrane trip pre-coated with mouse

monoclonal anti-HBs capture antibody on test band region. The mouse monoclonal anti-HBs-colloid gold conjugate and serum sample moves along the membrane following the principle of chromatography to the test region (marked as T) and a color band appears as the antigen-antibody gold particle complex is formed. The kit membrane contains two bands marked as C (control) and T (test). These otherwise invisible bands become visible when antigen-antibody gold complex is formed if the test serum contains HBsAg. The C band always appears after addition of sample. Appearance of C band indicates the validity of the test kit, procedure, as well as the test result. If there was only one band (control) at the left section of the window, then it was interpreted as a negative result and respective serum sample was considered as HBsAg negative (surface antigen was not present in the test serum). If another color band appeared at the right side of control band, the test result was interpreted as positive and the serum sample was considered to be HBsAg positive (surface antigen was present in the serum sample).

HIV

Given labor intensive and time consuming of Enzyme linked immunosorbent assay (ELISA), a standard test for diagnosis of HIV, rapid diagnostic test was performed by using SD Bioline HIV-1/2 3.0. for detection HIV antigen. This is a visual, rapid, sensitive and accurate immune-chromatographic assay with 100% sensitivity and 99.8% specificity. HIV test procedure was performed as per the NACO guideline. If a colored band appeared only in the control area marked “C”, the test result was considered negative. The sample was considered reactive for HIV-1 if a colored band appeared in the area marked “1” and if colored band appeared in the area marked “2” it was considered reactive for HIV-2. The test was considered invalid if the control band or “C” did not appear.

Sera non-reactive by the first test were considered negative for anti-HIV antibodies and those that were reactive were subsequently tested by the second ELISA test and third enzyme immune assay or EIA test to confirm the positive results. Sera reactive for both second and third tests were considered positive for anti-HIV antibodies.

Syphilis

Syphilis testing was done at designated laboratory using rapid plasma regain (RPR) test kit. This is a non treponemal test that detects reagin or IgG and IgM (antilipoidal antibodies) produced by the damaged host cells. A reactive specimen was indicated by macroscopically visible black clumps against white background while non-reactive specimen appeared as a uniform light gray color with no clumps. All serological test results were recorded directly on women's antenatal card and laboratory register.

DATA EXTRACTION AND MANAGEMENT

Using multiple logic checks, the accuracy of the data was automatically ensured. Data consistency and quality was regularly checked by the research team. The tab-delimited database was generated by ACASI was decoded for analysis. All files in all the computers were protected by a unique password available only to the primary investigator. All the questionnaires were securely preserved under lock and key ensuring safety and confidentiality.

DATA CLEANING

An accurate and exhaustive codebook was prepared based on the questionnaire and using value labels of each of the variables. The codebook was continuously updated by including newly created, recoded and constructed variables and mentioning the value labels for each of them clearly. SAS version 9.3 was used for current analysis. By performing procedures to generate frequency distribution for each variables of the dataset, the outliers were identified and data cleaning was done accordingly.

MEASURES

The basic knowledge of STI was measured using seven "yes/no/don't know" items. The knowledge score was measured by dichotomizing each item into a value of 1 for each correct response and 0 for either incorrect or don't know response and then summing the item values to a composite score, re-scaled into 10 with higher values reflecting better knowledge about basic STI related knowledge. The complications of STI was measured using four "yes/no/don't know" items and likewise knowledge score about complications of STI was determined. The basic knowledge of HIV was measured using eleven "yes/no/don't know" items and knowledge score about HIV was also calculated in similar fashion. The overall knowledge score about STI was determined by summing three domain-specific items (basic knowledge about STI, HIV and STI-related complications) and then re-scaling it to 100. Respondents were assessed as having good overall STI knowledge if their score fall in the highest tertile, average in middle tertile and poor in lowest tertile.

The attitude towards HIV/AIDS was determined by using a five-point scale-strongly disagree, disagree, neither agree or disagree, agree and strongly agree.

DATA ANALYSIS

Descriptive analysis

A descriptive analysis of the data was conducted to examine the distribution of the variables of interest among the study population. The frequency distribution for each variable was determined as well as stratified distributions of prevalence of HIV and Hepatitis B across the strata of the covariates in our study. Similarly, distributions were prepared for the symptoms (past and current) suggestive of STI among participants.

Crude analysis

Using simple logistic regression, crude association between STI related knowledge-attitude level and test result status was determined. Next using the same procedure crude associations of demographic, socio-economic and behavioral variables with STI related knowledge–attitude and STI symptoms was analyzed.

Multivariable and multinomial analysis

Each sociodemographic factor was adjusted for all others using multiple logistic regressions. Based on the information collected from the literature review, and the results of crude analysis we decided to include age, age at marriage, per capita income, husband's age, education, religion, husband's stay away from home and residential area in our multiple logistic regression analysis model while determining the adjusted associations. The primary outcome variables of

interest were STI related knowledge, attitude, risk behaviors, symptoms (past and present) and test result status.

Participation rate and missing values

In this study the participation rate was 94.89% as among the 1760 invited attendees of the selected antenatal clinic 1670 participated in the study. Owing to the technologically developed framework and algorithm of the CACASI data collection platform, subjects were required to provide responses to each of the questions and thus the possibility of having missing values in the data owing to the selective non-response was not there. Missing values were generated in the data owing to the removal of outliers, having inconclusive test results and for subjects whose test results could not be linked with the data owing to some technical glitch (unique ID no. was not linked) in the laboratory records of the hospital. For all other variables, the cumulative number of missing values arising due to outlier deletion were less than 3%. For HIV test results it was approximately 2.8% and for Hepatitis B it was approximately 3.8%. Owing to the miniscule proportion of missing values and their generation process being largely unrelated with our variables of interest, we assumed that the values were missing at random, so the probability of the observed value for a variable being missing for a subject is not dependent on other variables in the analysis.

ETHICS APPROVAL

The study content and protocol was reviewed and approved by the Institutional Review Board (IRB) of the University of California, Los Angeles and Ethics Committee of the National Institute of Cholera and Enteric Diseases, Indian Council of Medical Research, Kolkata. Verbal consent was obtained from all eligible subjects prior to recruitment in the study.

SUMMARY OF FINDINGS

Among 1670 eligible self-interviewed participating attendees of the ANC center, (out of 1760

Summary Table 1. Distribution of the socio-demographic factors among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Continuous variables			Mean	95%CL	
				Lower	Upper
What is your present age?			22.37	22.18	22.55
Per head family income (INR)			2597.78	2466.65	2728.91
At what age did you get married?			18.53	18.38	18.67
What is your husband's age? Age in completed years			28.39	28.13	28.65
Categorical variables	**Categories**	**N**	**%**	**95%CL**	
				Lower	**Upper**
Till what level have you studied?	No education	90	5.39	4.31	6.47
	Primary	143	8.56	7.22	9.91
	High-school	1298	77.72	75.73	79.72
	Graduation and above	139	8.32	7.00	9.65
What is your religion?	Hindu	789	47.30	44.90	49.70
	Muslim	879	52.70	50.30	55.10
What is your occupation?	Currently not working	1601	95.87	94.91	96.82
	Currently working	69	4.13	3.18	5.09
What is your husband's occupation?	Unskilled Worker	180	10.82	9.33	12.32
	Skilled Worker	785	47.20	44.80	49.61
	Business	399	23.99	21.94	26.05
	Service	188	11.30	9.78	12.83
	Self-employed /Professional	111	6.67	5.47	7.88
What is your husband's education?	No education	173	10.36	8.90	11.82
	Primary	307	18.38	16.52	20.24
	High-school	1031	61.74	59.40	64.07
	Graduation and above	159	9.52	8.11	10.93
Due to your husband's work, does he need to stay away from you/family at a stretch for 6 months or more?	Most of the time	51	3.05	2.23	3.88
	Sometimes	80	4.79	3.77	5.82
	Few times	47	2.81	2.02	3.61
	Never	1492	89.34	87.86	90.82
Where do you live?	Urban	684	40.96	38.60	43.32
	Rural	986	59.04	56.68	61.40

invited, participating rate 94.89%) the mean age was 22.37 years [95% confidence interval (CI)=22.18-22.55], with majority were educated up to high-school level (77.72), Muslim (52.70%) by religion and rural residents (59.04%). Among husbands, the mean age was 28.39 years (95% CI=28.13-28.65), most of them achieved high-school education (61.74%), were skilled workers (47.2%) and never stayed away from family for 6 months or more at a stretch for work (89.34%). [Summary Table 1]

Knowledge regarding complications of STIs appeared to be poor among 41% respondents while 18% and 29% mothers did not know about symptoms and transmission of STIs, respectively. About 26% participants had poor overall knowledge regarding STIs including HIV. [Summary Table 2]

Summary Table 2. Distribution of knowledge regarding STI including HIV among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Statements/variables	Response categories	N	%	95% CL	
				Lower	Upper
Knowledge among respondents regarding symptoms of sexually transmitted infections including HIV	Poor	292	17.49	15.66	19.31
	Average	768	45.99	43.60	48.38
	Good	610	36.53	34.22	38.84
Knowledge among respondents regarding transmission of sexually transmitted infections including HIV	Poor	484	28.98	26.80	31.16
	Average	381	22.81	20.80	24.83
	Good	805	48.20	45.80	50.60
Knowledge among respondents regarding complications of sexually transmitted infections including HIV	Poor	679	40.66	38.30	43.02
	Average	364	21.80	19.81	23.78
	Good	627	37.54	35.22	39.87
Overall knowledge among respondents regarding sexually transmitted infections including HIV	Poor	439	26.29	24.17	28.40
	Average	714	42.75	40.38	45.13
	Good	517	30.96	28.74	33.18

Majority (80%) of the husbands did not consume or rarely consume alcohol before having sex with the respondents. Most of the participants experienced vaginal sex (63%) during pregnancy followed by anal sex (5%) and oral or other form of sex (4%). About 9% reported being verbally abused by their husbands during sex. Approximately 6% reported being physically abused ever by their husbands while having sex. An estimated 9% suspected that their husbands had an extra-marital affair and 4% believed that their husbands were having sex with a commercial sex worker. [Summary Table 3]

Summary Table 3. Distribution of the husband's sexual behavior as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
Does your husband consume alcohol before having sex with you?	Very rare or never	1341	80.30	78.39	82.21
	Sometimes	292	17.49	15.66	19.31
	Most of the time	37	2.22	1.51	2.92
During your pregnancy did your husband have sex with you?	Did not happen	473	28.32	26.16	30.49
	Oral sex or other	70	4.19	3.23	5.15
	Anal sex	75	4.49	3.50	5.49
	Vaginal sex.	1052	62.99	60.68	65.31
While having sex, did your husband ever use slang language or behave badly with you?	No	1524	91.26	89.90	92.61
	Yes	146	8.74	7.39	10.10
While having sex, has your husband ever physically assaulted you?	No	1563	93.59	92.42	94.77
	Yes	107	6.41	5.23	7.58
Do you suspect that your husband had or could have sexual relations with any other women?	No	1520	91.02	89.65	92.39
	Yes	150	8.98	7.61	10.35
Do you think the woman apart from you with whom your husband has sex is a sex worker?	No	1598	95.69	94.71	96.66
	Yes	72	4.31	3.34	5.29

Approximately 61% respondents reported to have forced sex with their husbands and 3% were forced to have sex with someone other than their husbands. More than half of participants (56%)

had an experience of anal sex with their husbands. Only 5% mothers admitted that they were having sex with male other than their husbands.16 mothers told that they had one than one male partner other than their husbands.

Summary Table 4. Distribution of sexual behavior/experience/other risk factors among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
Did anyone ever force you to have sex?	Not been forced	594	35.57	33.27	37.87
	Forced by husband.	1024	61.32	58.98	63.66
	Forced by someone other than husband.	52	3.11	2.28	3.95
Has your husband or anyone else had anal sex with you?	No	731	43.77	41.39	46.15
	Yes	939	56.23	53.85	58.61
Did your husband/anyone else ever have sex with you after consuming alcohol?	No	990	59.28	56.92	61.64
	Yes	680	40.72	38.36	43.08
Do you have sexual relationship with any man other than your husband?	No	1589	95.15	94.12	96.18
	Yes	81	4.85	3.82	5.88
How many male sex partners apart from your husband do you have?	Have one partner.	65	80.25	71.39	89.11
	Have more than one.	16	19.75	10.89	28.61
When you had sex with a male partner other than your husband, were you offered money?	No	33	40.74	29.81	51.67
	Yes	48	59.26	48.33	70.19
When you had sex with a male partner other than your husband, did you accept any gifts?	No	35	43.21	32.19	54.23
	Yes	46	56.79	45.77	67.81
When you had sex with a male partner in exchange for money, did he use a condom?	Always	10	12.35	5.03	19.66
	Sometimes	15	18.52	9.88	27.16
	Never	56	69.14	58.86	79.41
When you had sex with a male partner other than your husband, did he use a condom?	Always	9	11.11	4.12	18.10
	Sometimes	12	14.81	6.91	22.72
	Never	60	74.07	64.32	83.82

Among 81 respondents who reported extra-marital relationship, 48 mothers had sex in exchange of money, 46 mothers had sex in exchange of gifts, most of their partners (other than husband) did not use condom and 43 women suspected that their male partners were also engaged in sex with commercial sex worker. About 10% had history of receiving multiple injections in past 6 months. [Summary Table 4]

Out of 1607 participants whose Hepatitis B results could be obtained, 44 were positive for hepatitis B infection giving rise to a burden of 2.74. [Summary Table 5]

Summary Table 5. Distribution of Hepatitis B among self-interviewed antenatal care attendees in Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
Hepatitis B	Negative	1563	97.26	96.46	98.06
	Positive	44	2.74	1.94	3.54

Of 1623 ANC attendees for whom HIV-1 results were available, 27 were found to be HIV-1 positive giving rise to a burden of 1.66 (95% CI=1.04-2.29%). [Summary Table 6]

Summary Table 6. Distribution of HIV-1 among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
HIV-1	Negative	1596	98.34	97.71	98.96
	Positive	27	1.66	1.04	2.29

Mothers and those having husbands with relatively higher level of education and those who were currently working seemed to have an overall good knowledge regarding STIs including HIV. [Summary Table 7]

Summary Table 7. Association between socio-demographic factors and overall knowledge regarding sexually transmitted infections including HIV among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables			Overall knowledge regarding STI including HIV (ref=Poor)			
			Average		Good	
Continuous		**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Educational level (ref=No education)	Primary	Unadj	1.11(0.60-2.04)	0.7457	1.87(0.93-3.76)	0.0782
		Adj	1.11(0.59-2.09)	0.7378	1.93(0.93-3.99)	0.0761
	High-school	Unadj	1.50(0.92-2.44)	0.1009	**2.06(1.15-3.68)**	**0.0145**
		Adj	1.60(0.96-2.69)	0.0738	**2.26(1.21-4.22)**	**0.0105**
	≥Graduation	Unadj	**3.27(1.62-6.58)**	**0.0009**	**5.67(2.62-12.26)**	**<.0001**
		Adj	**3.65(1.71-7.78)**	**0.0008**	**5.50(2.36-12.81)**	**<.0001**
Husband's educational level (ref=No education)	Primary	Unadj	1.01(0.64-1.60)	0.9561	1.06(0.65-1.71)	0.8225
		Adj	0.95(0.58-1.53)	0.8185	0.95(0.57-1.59)	0.8539
	High-school	Unadj	1.09(0.74-1.62)	0.6621	0.97(0.64-1.48)	0.8917
		Adj	1.01(0.66-1.56)	0.9543	0.88(0.55-1.39)	0.5808
	Graduation and above	Unadj	**2.60(1.42-4.76)**	**0.0019**	**2.59(1.38-4.87)**	**0.0030**
		Adj	**2.11(1.08-4.12)**	**0.0298**	1.83(0.90-3.74)	0.0965
Are you currently working? (ref=No)	Yes	Unadj	**2.33(1.00-5.42)**	**0.0490**	**4.62(2.03-10.49)**	**0.0003**
		Adj	2.02(0.86-4.79)	0.1084	**3.40(1.46-7.91)**	**0.0046**

Summary Table 8. Association of socio-demographics with Hepatitis B sero-positivity among antenatal care attendees in Kolkata, West Bengal, India, 2016

Socio-demographic factors		OR	Hepatitis B sero-positivity	
Variables	**Categories**		**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	0.56(0.30-1.04)	0.0651
		Adj	**0.47(0.23-0.97)**	**0.0416**

Compared to Hindus, Muslims were less likely to have hepatitis B infection. [Summary Table 8] Risk of hepatitis B infection was low among participants whose husbands used condom during sex with their wife before planning for children. Participants in a physical relationship with other male partner were more likely to be hepatitis B positive than who were not engaged in such relationship. [Summary Table 9]

Summary Table 9. Association of Respondent's sexual behavior & Hepatitis B sero-positivity among antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent's sexual behavior and experience	Categories	OR	Hepatitis B sero-positivity	
			OR (95%CI)	p value
Before planning for a baby, did your husband use condoms during having sex with you? (ref=No)	Yes	Unadj	**0.33(0.14-0.79)**	**0.0126**
		Adj	**0.39(0.16-0.93)**	**0.0338**
Have male sex partner other than husband (ref=No)	Yes	Unadj	**3.34(1.37-8.15)**	**0.0082**
		Adj	**3.72(1.35-10.22)**	**0.0109**

Summary Table 10. Association of respondent's attitude towards partner notification and current symptoms with Hepatitis B sero-positivity among antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent's attitude towards partner notification for symptoms suggestive of sexually transmitted infections	Categories	OR	Hepatitis B sero-positivity	
			OR (95%CI)	p value
If any woman has symptoms of sexually transmitted infections, she should inform her husband/male partner about it (ref=no)	yes	Unadj	**0.37(0.20-0.68)**	**0.0014**
		Adj	**0.35(0.18-0.68)**	**0.0020**
Respondent's history of having current symptoms	**Categories**	**OR**	**Hepatitis B sero-positivity**	
			OR (95%CI)	**p value**
Yellow-colored urine/skin/eyes (ref=no)	yes	Unadj	**6.36(3.38-11.95)**	**<.0001**
		Adj	**10.00(4.80-20.84)**	**<.0001**
Fever/loss of appetite/nausea (ref=no)	yes	Unadj	**3.82(1.96-7.44)**	**<.0001**
		Adj	**4.51(2.16-9.40)**	**<.0001**

Participants who believed that a woman should report STI-related symptoms to her husbands had lower odds to be hepatitis B infected than those who did not believe so. Odds of having symptoms like yellow-colored urine/skin/eyes and fever/loss of appetite for a prolonged period in the last 6 months increased the risk of hepatitis B infection. [Summary Table 10]

Summary Table 11. Association of socio-demographic factors with HIV-1 sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Socio-demographic factors		OR	HIV-1 sero-positivity	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	**1.17(1.08-1.27)**	**0.0002**
		Adj	1.04(0.90-1.20)	0.6271
Per capita family income		Unadj	**1.12(1.06-1.19)**	**<.0001**
		Adj	1.08(0.99-1.18)	0.0837
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**
Religion? (ref=Hindu)	Muslim	Unadj	**0.31(0.13-0.73)**	**0.0076**
		Adj	0.56(0.20-1.54)	0.2614
Educational level (ref=No education)	Primary	Unadj	**0.20(0.05-0.75)**	**0.0175**
		Adj	**0.14(0.03-0.61)**	**0.0086**
	High-school	Unadj	**0.10(0.04-0.23)**	**<.0001**
		Adj	**0.11(0.04-0.31)**	**<.0001**
	≥Graduation	Unadj	**0.07(0.01-0.54)**	**0.0110**
		Adj	**0.05(0.01-0.49)**	**0.0105**
How often husband needs to stay away from you/family at a stretch for 6 months or more? (ref=most of the time)	Sometimes	Unadj	1.07(0.24-4.67)	0.9317
		Adj	1.33(0.27-6.56)	0.7296
	Few times	Unadj	0.38(0.04-3.80)	0.4110
		Adj	0.48(0.04-5.45)	0.5572
	Never	Unadj	**0.20(0.06-0.71)**	**0.0123**
		Adj	**0.20(0.05-0.80)**	**0.0229**
Residential area (ref=Urban)	Rural	Unadj	**0.24(0.10-0.56)**	**0.0011**
		Adj	0.39(0.14-1.07)	0.0683

In unadjusted models, higher age and higher per capita family income were significant predictors of HIV risk. In the adjusted models, it was observed that participants with higher education were less likely to be HIV infected compared to their illiterate counterparts. Respondents who reported

that their husbands never required to stay away from family for 6 months or more at a stretch had lower odds to be positive than those whose husbands stayed away from family. Rural residents were at lower HIV risk than their urban counterparts. [Summary Table 11]

Participants who reported having sex with someone who consumed alcohol had higher likelihood to be HIV positive compared to those who did not report such experience. Mothers who received injection from a nurse/compounder/any health worker in the last 6 months were less likely to be HIV positive than those who did not receive any injection. [Summary Table 12]

Summary Table 12. Association of own sexual behavior/experience with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent's sexual behavior/experience and other risk factors	Categories	OR	HIV-1 sero-positivity	
			OR (95%CI)	p value
Ever anyone had sex with you after consuming alcohol (ref=No)	Yes	Unadj	**3.52(1.53-8.09)**	**0.0030**
		Adj	**2.83(1.15-6.98)**	**0.0241**

Husband's consumption of alcohol before having sex seemed to have some positive association with HIV risk among ANC attendees. [Summary Table 13]

Summary Table 13. Association of husband's sexual behavior with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Husband's sexual behavior	Categories	OR	HIV-1 sero-positivity	
			OR (95%CI)	p value
Husband consumes alcohol before having sex with you (ref=very rare or never consumes.)	Sometimes	Unadj	**2.92(1.31-6.50)**	**0.0087**
		Adj	2.24(0.91-5.48)	0.0788
	Almost always	Unadj	2.23(0.29-17.28)	0.4424
		Adj	0.95(0.09-9.88)	0.9636

A positive association was observed between prior history of blood transfusion and higher odds of being HIV infected. Participants who had a past history of syphilis had higher HIV risk than

those without such history. Self-reported history genital lesion and groin swelling in the past six months also increased the odds of being HIV positive compared to those who did not report such symptom. [Summary Table 14]

Summary Table 14. Association of own and husband's medical history and history of symptoms suggestive of sexually transmitted infections with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent's and her husband's medical history	Categories	OR	HIV-1 seropositivity	
			OR (95%CI)	p value
In the last 6 months, have you had any blood transfusions? (ref=no)	Yes	Unadj	**7.90(1.72-36.20)**	**0.0078**
		Adj	**7.92(1.30-48.36)**	**0.0250**
Have you ever had Syphilis? (ref=no)	Yes	Unadj	**12.24(1.38-108.45)**	**0.0244**
		Adj	-	-

Participants who perceived themselves to be at risk for HIV were more likely to be HIV positive than those who did not perceive to be at HIV risk. Furthermore, respondents who perceived their husbands to be at risk for HIV also had higher HIV risk than who did not have such perception. [Summary Table 15]

Summary Table 15. Association of perception regarding risk of sexually transmitted infections including HIV with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent' perception regarding risk of sexually transmitted infections including HIV	Categories	OR	HIV-1 sero-positivity	
			OR (95%CI)	p value
Do you think you might have HIV/AIDS? (ref=no)	Yes	Unadj	**11.71(5.08-27.03)**	**<.0001**
		Adj	**14.50(5.57-37.74)**	**<.0001**
Do you think your husband might have HIV/AIDS? (ref=no)	Yes	Unadj	**6.76(3.13-14.62)**	**<.0001**
		Adj	**7.13(2.98-17.07)**	**<.0001**
Overall perceived risk (ref=Low)	Moderate	Unadj	2.59(0.64-10.41)	0.1806
		Adj	2.13(0.50-9.10)	0.3068
	High	Unadj	**10.08(3.41-29.81)**	**<.0001**
		Adj	**12.04(3.77-38.43)**	**<.0001**

RESULTS

Of total 1760 mothers who were approached, 1670 participants were recruited and enrolled into the study and were self-interviewed. Ninety mothers were excluded because either they were not eligible or refused to participate. The most common reason of refusal was lack of time. About 10% of the required sample (n=176) were interviewed by an interviewer using C-ACASI without headphones. Socio-demographic characteristics, obstetric history, husbands' sexual behavior and own sexual behavior were compared across these two groups of interviewed mothers. There was very little missing data in the C-ACASI method of data collection.

Section A. Distribution of Sociodemographic factors and obstetric history among antenatal care attendees in Kolkata, West Bengal, India, 2016

Distribution of sociodemographic factors among 1670 antenatal care attendees who were self-interviewed in Kolkata, West Bengal, India are presented in Tables 1a. The mean age was 22.37 years [95% confidence interval (CI)=22.18-22.55], with majority were educated up to high-school level (77.72), Muslim (52.70%) by religion and rural residents (59.04%). Among husbands, the mean age was 28.39 years (95% CI=28.13-28.65), most of them achieved high-school education (61.74%), were skilled workers (47.2%) and never stayed away from family for 6 months or more at a stretch for work (89.34%).

Distribution of sociodemographic factors among antenatal care attendees in Kolkata, West Bengal, India who were interviewed by an interviewer are presented in Tables 1b. Based on the confidence intervals of the parameter estimates, the distributions of the socio-demographic

factors among two groups of antenatal care attendees (self-interviewed vs interviewer interviewed) appeared similar.

Distribution of obstetric history among antenatal care attendees in Kolkata, West Bengal, India who were self-interviewed are summarized in Table 1c. Regarding obstetric history, 54.43% were prima-gravidae, 22.04% had a past history of abortion or miscarriage, 11.98% babies were born before the expected date of delivery (EDD) and 2.52% had stillbirths.

Distribution of obstetric history among antenatal care attendees in Kolkata, West Bengal, India who were interviewed by an interviewer are summarized in Table 1d. Compared to participants who were self-interviewed (n=1670), the proportions of prima-gravidae (68.18%) was higher while number of abortion or miscarriage (16.48%) and babies born before EDD (5.11%) were lower among mothers who were interviewed by an interviewer and these differences were statistically significant.

<u>Section B.</u> Knowledge regarding sexually transmitted infections including HIV among antenatal care attendees in Kolkata, West Bengal, India, 2016

Distribution of the knowledge regarding STIs (other than HIV), their symptoms and acquisition among antenatal care attendees are summarized in Table 2a. More than three-fourths of the participants (76%) had the knowledge that certain diseases could be transmitted through sexual relationships. Approximately 42-45% mothers were aware of STI-related symptoms which included abnormal vaginal discharge, painful micturition, vaginal itch and lower abdominal/back ache. Participants were less aware about other symptoms like swelling in the groin and genital ulcer.

Distribution of the knowledge regarding HIV, its symptoms and acquisition among antenatal care attendees are summarized in Table 2b. Less than one-fifth participants had correct knowledge regarding HIV in general. About 85% mothers believed that a HIV positive person might not appear healthy while 81% respondents were not aware of the asymptomatic nature of HIV infection and transmission risk. Of total participants, only 37% told that HIV could be prevented and 25% knew that using condom during sex reduced transmission risk of HIV. Majority of participants had incorrect knowledge regarding different routes of HIV acquisition for example 77% wrongly reported that infection could be acquired through sharing food with a HIV infected person. About 45% had correct knowledge regarding risk of HIV transmission from infected mother to her child while breastfeeding.

Distribution of the knowledge regarding complications of STI among antenatal care attendees are summarized in Table 2c. Approximately 70% up to 75% respondents did not know that STIs could lead to complications like cancer, infertility and adverse pregnancy outcomes. However, nearly half of the mothers had correct knowledge that having STI during pregnancy could harm babies and about the need to treat husband/male sexual partner of an infected women.

Distribution of overall knowledge regarding STI including HIV among antenatal care attendees are summarized in Table 2d. Knowledge regarding complications of STIs appeared to be poor among 41% respondents while 18% and 29% mothers did not know about symptoms and transmission of STIs, respectively. About 26% participants had poor overall knowledge regarding STIs including HIV.

Association between socio-demographic factors and knowledge regarding symptoms of sexually transmitted infections including HIV among recruited antenatal care attendees who were self-interviewed are presented in Table 2.e**.** After adjusting for potential confounders in the

multinomial regression model, better education of both pregnant women and their husbands was found to be positively associated with good knowledge regarding symptoms of STI. Participants who were currently working had higher odds of having good knowledge regarding symptoms of STI than those who were not working. Compared to urban residents, those residing in rural areas were less likely to have good knowledge regarding symptoms of STI.

Association between socio-demographic factors and knowledge regarding transmission of sexually transmitted infections including HIV among recruited antenatal care attendees who were self-interviewed in Table 2.f. An increase in age was associated with higher odds of having good knowledge regarding STI transmission. Mothers with higher levels of education were more likely to have good knowledge regarding STI transmission. Compared to participants who were not currently working, those who were working had higher likelihood of having good knowledge regarding STI transmission. Rural residents as opposed to urban residents were more likely to have good knowledge regarding STI transmission.

Association between socio-demographic factors and knowledge regarding complications of sexually transmitted infections including HIV among recruited antenatal care attendees who were self-interviewed in Table 2.g**.** Compared to Hindus, Muslims had good knowledge regarding complications of STI. Mothers who were currently working had higher likelihood of having good knowledge regarding complications of STI than those who were not working. Odds of having good knowledge regarding complications of STI appeared to be lower among respondents whose husbands were in service than unskilled workers.

Association between socio-demographic factors and overall knowledge regarding sexually transmitted infections including HIV among recruited antenatal care attendees who were self-interviewed are presented in Table 2.h. Mothers with higher educational levels and those who

were currently working seemed to have an overall good knowledge regarding STIs including HIV.

<u>Section C.</u> Distribution of attitude regarding sexually transmitted infections including HIV among antenatal care attendees in Kolkata, West Bengal, India, 2016

Distribution of the attitude towards HIV among antenatal care attendees are presented in Table 3a. There were relatively low proportions of women with positive attitude toward HIV/AIDS in the current study. About 35-40% participants agreed that being HIV positive was a crime and therefore they should be punished and ostracized. Approximately 30% mothers agreed that making friend or working with a positive person was uncomfortable and 29% agreed that an HIV positive child should not be allowed to study in a school. Overall 39% respondents reported poor attitude toward HIV positive person.

Association between socio-demographic factors and the attitude that HIV patients are sinner and should be punished among recruited antenatal care attendees who were self-interviewed are presented in Table 3.b. The two factors that were significantly associated with positive attitude toward HIV/AIDS were higher educational level and urban place of residence. With reference to illiterate participants those with graduation level education were more likely to somewhat disagree with the statement "HIV is a crime and HIV infected person should be punished." Rural residents were more likely to reported strong disagreement with the same statement compared to urban counterpart. In addition, older mothers were less likely to disagree while older husbands were more likely to disagree with the same statement.

Association of general health perception and knowledge regarding STI/HIV with the attitude HIV that patients are sinner and should be punished, among recruited antenatal care attendees who were self-interviewed are presented in Table 3.c**.** Having better overall and domain-specific knowledge regarding STI including HIV did not increase the odds of reporting positive attitude towards HIV infected persons. Participants with better knowledge were less likely to disagree with the statement "HIV is a crime and HIV positive patient should be punished"

Association between socio-demographic factors and the attitude that HIV patients should be ostracized/discriminated among recruited antenatal care attendees who were self-interviewed are presented in Table 3.d. Muslims were less likely to disagree with the statement that "HIV positive individuals should be ostracized/discriminated" compared to Hindus. Rural residents also reported strong disagreement with the same statement than urban residents. Mothers whose husbands stayed away from families for 6 months or more at a stretch were more likely to disagree with the above mentioned statement compared to those who did not stay away from families.

Association of general health perception and knowledge regarding STI/HIV with the attitude that HIV patients should be ostracized/discriminated, among recruited antenatal care attendees who were self-interviewed are presented in Table 3.e. Having better overall and domain-specific knowledge regarding STI including HIV did not increase the odds of reporting positive attitude towards HIV infected persons. Participants with better knowledge were less likely to disagree with the statement "HIV positive patient should be ostracized/discriminated"

Association between socio-demographic factors and the attitude that to be a friend of an HIV positive patient is uncomfortable, among recruited antenatal care attendees who were self-interviewed are presented in Table 3.f. Mothers who were Muslim by religion and were currently

working were less likely to disagree with the statement “It is uncomfortable to be a friend of an HIV positive patient.”

Association of general health perception and knowledge regarding STI/HIV with the attitude that to be friend of an HIV positive patient is uncomfortable, among recruited antenatal care attendees who were self-interviewed are presented in Table. g. Having better overall and domain-specific knowledge regarding STI including HIV did not increase the odds of reporting positive attitude towards HIV infected persons. Participants with better knowledge were less likely to disagree with the statement “It is uncomfortable to be a friend of an HIV positive patient”.

Association of socio-demographic factors with the attitude that sharing workplace with an HIV positive patient is uncomfortable, among recruited antenatal care attendees who were self-interviewed are presented in Table. h. Mothers who were Muslim by religion, rural residents and were currently working were less likely to disagree with the statement “It is uncomfortable to share workplace with an HIV positive patient”. Mothers who attained graduation level education or above were more likely to express strong disagree against the same statement.

Association of general health perception and knowledge regarding STI/HIV with the attitude that sharing workplace with an HIV positive patient is uncomfortable, among recruited antenatal care attendees who were self-interviewed are presented in Table 3.i. Having better overall and domain-specific knowledge regarding STI including HIV did not increase the odds of reporting positive attitude towards HIV infected persons. Participants with better knowledge were less likely to disagree with the statement “It is uncomfortable to work with an HIV positive individual in an office” Mothers who were Muslim by religion and rural residents less likely to report strong disagree againsts the same statement.

Association of socio-demographic factors with the attitude that HIV positive children should not be allowed to study in school, among recruited antenatal care attendees who were self-interviewed are presented in Table 3.j. Increase in per capita family income and higher education increased the odds of reporting positive attitude towards HIV child. Mothers who were Muslim by religion and resided in rural areas were less likely to report strong disagree against the statement that "HIV positive children should not be allowed to study in a school."

Association of general health perception and knowledge regarding STI/HIV with the attitude that HIV positive children should not be allowed to study in school, among recruited antenatal care attendees who were self-interviewed are depicted in Table 3.k. Having better overall and domain-specific knowledge regarding STI including HIV did not increase the odds of reporting positive attitude towards HIV infected children. Participants with better knowledge were less likely to report strong disagree against the statement "HIV positive children should not be allowed to study in school".

Association of socio-demographic factors with the overall attitude towards HIV, among recruited antenatal care attendees who were self-interviewed are depicted in Table 3.l. Older mothers were likely to report good overall attitude towards HIV positive patients. Higher per capita family income was associated with good overall attitude towards HIV infected persons. Respondents with higher level of education had higher odds of reporting good overall attitude towards HIV positive patients than their illiterate counterparts. Compared to urban residents, participants from rural areas were less likely to show good overall attitude towards HIV.

Association of general health perception and knowledge regarding STI/HIV with the overall attitude towards HIV, among recruited antenatal care attendees who were self-interviewed are depicted in Table 3.m. Having better overall and domain-specific knowledge regarding STI

including HIV did not increase the odds of reporting good overall attitude towards HIV infected persons.

Section D. Husband's sexual behavior and sexual experience with husband among antenatal care attendees in Kolkata, West Bengal, India, 2016

Distribution of the husband's sexual behavior as reported by the recruited antenatal care attendees who were self-interviewed are shown in Table 4a. Majority (80%) of the husbands did not consume or rarely consume alcohol before having sex with the respondents. Most of the participants experienced vaginal sex (63%) during pregnancy followed by anal sex (5%) and oral or other form of sex (4%). About 9% reported being verbally abused by their husbands during sex. Approximately 6% reported being physically abused ever by their husbands while having sex. An estimated 9% suspected that their husbands had an extra-marital affair and 4% believed that their husbands were having sex with a commercial sex worker.

Distribution of the husband's sexual behavior as reported by the recruited antenatal care attendees who were interviewed by an interviewer (N=176) are shown in Table 4b. Based on confidence intervals of the parameter estimate, it appeared that regarding husband's sexual behavior, the distribution of "consumption of alcohol before having sex", "ever use of slang language or bad behavior" and "the suspicion that husband's other sexual partnetr was probably a sex worker" differed somewhat significantly between those who were self-interviewed and interviewed by the study staff. Non-overlapping confidence intervals indicated that all these socially undesirable risky sexual behaviors were reported to be more common through self-interviews as opposed to the interviewer-administered ones.

Association of socio-demographic factors with husband's alcohol consumption pattern before sex as reported by the recruited antenatal care attendees who were self-interviewed are presented in Table 4.a**.** Mothers who attained high-school level education were less likely to report more frequent (almost always) alcohol consumption by their husbands before having sex compared to those with no formal education. Although husbands with more education were less likely to indulge in more frequent drinking in unadjusted analysis, the association was no longer significant in adjusted model. Husbands who were business persons had lower odds of more frequent alcohol consumption before sex than those who were unskilled laborers. Respondents residing in rural areas were more likely to report less frequent alcohol consumption by their husbands than their urban counterparts. Compared to Hindus, husbands of Muslim participants were less likely to consume alcohol sometime before sex.

Association of socio-demographic factors with having vaginal sex with husband during pregnancy as reported by the recruited antenatal care attendees who were self-interviewed are presented in Table 4.d. Increase in age was associated with lower likelihood of vaginal sex during pregnancy. Mothers with better education were more likely to engage in vaginal sex during pregnancy than their illiterate counterpart.

Association of socio-demographic factors with husband's verbal abuse/misbehavior while having sex as reported by the recruited antenatal care attendees who were self-interviewed are presented in Table 4.e. Older mother were more likely to experience verbal abuse by their husbands during sex. Higher age of mother at marriage was negatively associated with verbal abuse during sex. Older husbands were less likely to verbally abuse their wives during sex. Participants with better educational attainment were less likely to be verbally abused by their husbands during sex than those without formal education. Likewise, better educated husbands were less likely to verbally

abuse their wives during sex compared to their illiterate counterparts. Husbands who stayed away from family for 6 months or more at a stretch sometimes were more likely to abuse their wives than those who did not.

Association of socio-demographic factors with being physically assaulted/abused by husband while having sex with him as reported by the recruited antenatal care attendees who were self-interviewed are presented in Table 4.f. Increase in age of mothers was positively associated with higher likelihood of experiencing physical assault from husbands. Compared to Hindus, Muslims were more likely to be physically abused by their husbands. Mothers with higher education had lower odds of experiencing physical abuse from husbands.

Association of socio-demographic factors with having the suspicion that husband has/had sexual relations with other women as reported by the recruited antenatal care attendees who were self-interviewed are presented in 4.g. Compared to Hindus, Muslims were more likely to suspect that their husbands had extra-marital affair. Lower education was associated with suspecting their husbands of extramarital sex.

Association of socio-demographic factors with the thinking that the other woman with whom husband has/had sexual relation is a sex worker, as reported by the recruited antenatal care attendees who were self-interviewed are presented in Table 4.h. Older mothers were more likely to believe that their husbands were engaged in sex with commercial sex worker. Respondents with better education were less likely to believe that their husbands were engaged in sex with commercial sex worker compared to those with poor literacy.

Distribution of the sexual relationship with husband among recruited antenatal care attendees who were self-interviewed are summarized in Table 4.i. Half (50%) of the mothers rated their

sexual experience with their husbands as “excellent” while 5% rated their experience as “bad”. About 73% respondents reported that both of them used to decide to using condom before getting pregnant while in 17% mothers told that their husbands’ decision to wear condom.

Distribution of the sexual relationship with husband among recruited antenatal care attendees who were interviewed by an interviewer is presented in Table 4.j. Distribution of sexual experience seemed to differ across two groups of mothers. Here, only 3 mothers reported bad sexual experience as opposed to 80 among self-interviewed mothers.

Association of socio-demographic factors with the quality of sexual relationship/experience with husband, as reported by the recruited antenatal care attendees who were self-interviewed are depicted in Table 4.k. Respondents belonging to Muslim religion appeared to express worse sexual relationship/experience with their husband compared to their Hindu counterparts although the adjusted analysis lacked sufficient power. Mothers with better education had lower odds of excellent sexual experience compared to illiterate counterpart. Respondents who were currently working were more likely to rate their sexual experience as “good/ok” than those who were not working.

Association of husband’s sexual behavior with the quality of sexual relationship/experience with husband, as reported by the recruited antenatal care attendees who were self-interviewed are depicted in Table 4.l. Participants whose husbands used to drink before having sex were more likely to rate their sexual experience as “bad” than those whose husbands did not drink or rarely take alcohol and association were stronger whose husbands almost always used to drink before sex. Mothers had experience of vaginal sex during pregnancy had higher odds of rating their sexual relationship as bad compared to those whose did not have sex. In unadjusted models,

pregnant women experiencing verbal and physical abuse were more likely to rate their sexual experience as “bad” than who were not abused.

Association of husband’s sexual behavior with the pattern of decision-making during sex regarding condom use before trying to have baby, as reported by the recruited antenatal care attendees who were self-interviewed are depicted in Table 4.m. The significant positive predictors of couples’ joint decision to use condoms were having vaginal sex during pregnancy, wives’ suspicion that their husbands had extra-marital affair and also husbands had sexual relationship with commercial sex workers.

<u>Section E.</u> Sexual behavior/experience of the antenatal care attendees in Kolkata, West Bengal, India, 2016

Distribution of sexual behavior/experience/other risk factors among recruited antenatal care attendees who were self-interviewed are presented in Table 5.a. Majority (52.57%) of the respondents reported having experience of first sex between 15-18 years of age and 11% had sexual debut below 15 years of age. About 9% mothers had sex before marriage. Approximately 61% respondents reported to have forced sex with their husbands and 3% were forced to have sex with someone other than their husbands. More than half of participants (56%) had an experience of anal sex with their husbands. Approximately 68% participants reported that their husbands did not use condom before planning for baby. The most common reason stated by the participants for not using condom was that it was not required for having sex with spouse followed by reduced pleasure. Only 5% mothers admitted that they were having sex with male other than their husbands.16 mothers told that they had one than one male partner other than

their husbands. Among 81 respondents who reported extra-marital relationship, 48 mothers had sex in exchange of money, 46 mothers had sex in exchange of gifts, most of their partners (other than husband) did not use condom and 43 women suspected that their male partners were also engaged in sex with commercial sex worker. About 10% had history of receiving multiple injections in past 6 months.

Distribution of sexual behavior/experience/other risk factors among recruited antenatal care attendees who were interviewed by an interviewer (N=176) are presented in Table 5.b. Based on confidence intervals of the parameter estimate, it appeared that the distributions of majority of respondents' sexual behavior differed between two groups (self-interviewed vs interview administered). Based on non-overlap of the confidence intervals, alike the case of husband's sexual behavior it appeared that antenatal care attendees were more likely to report their own sexual behaviors also with higher proportion during self-interviews compared to interviewer-admintered interviews.

Association of socio-demographic factors with the age at first sex among the recruited antenatal care attendees who were self-interviewed are presented in Table 5.c. Intuitively keeping the sociocultural norms of conservative Indian society in mind, a significant positive association was observed between age at marriage and sexual debut. Mothers who were educated at least up to graduate level were more likely to have late sexual debut compared to their illiterate counterparts.

Association of socio-demographic factors with having first sex before marriage among the recruited antenatal care attendees who were self-interviewed are presented in Table 5.d. Mothers with better socio-economic status were more likely to have sex before marriage. Compared to Hindus, Muslims had lower odds of engaging in sex before marriage.

Association of socio-demographic factors with ever being forced to have sex among the recruited antenatal care attendees who were self-interviewed are presented in Table 5.e. With an increase in age of mothers the likelihood to have forced sex either with husbands or other male partner diminished. Irrespective of educational levels of mothers they were likely to experience forced sex by husbands. Participants who were currently working had lower odds of experiencing forced sex with their husbands than those who were not. Husbands who were service holders or self-employed were less likely to force their wives for sex. Compared to urban residents, rural mothers were more likely to experience forced sex either with their husbands or other male partners.

Association of socio-demographic factors with ever having anal sex among the recruited antenatal care attendees who were self-interviewed are presented in Table 5.f. Better education of mothers and their husbands were negatively associated with higher likelihood of experiencing anal sex. Husbands with higher employment status were less likely to engage in anal sex with their wives. Mothers residing in rural places were more likely to have experience of anal sex ever with their husbands.

Association of socio-demographic factors with ever having sex with someone who consumed alcohol among the recruited antenatal care attendees who were self-interviewed are presented in Table 5.g. Older mothers were less likely to experience sex with someone who consumed alcohol. Mothers who were married late had lower odds of reporting sex with someone who consumed alcohol. Compared to Hindus, Muslims were less likely to experience sex with someone who consumed alcohol. Mothers with higher education had lower odds of reporting sex with someone who consumed alcohol than their illiterate counterparts. Rural residents had higher likelihood of sex with some who consumed alcohol than their urban counterparts.

Association of socio-demographic factors with husband using condom while having sex (before planning for a baby) with the respondent among the recruited antenatal care attendees who were self-interviewed are presented in Table 5.h. Mothers who married late were less likely to report condom use by their husbands. Compared to Hindus, Muslims were more likely to report condom use by their husbands.

Association of socio-demographic factors with reason for husband not using condom while having sex with the respondent (before planning for a baby) among the recruited antenatal care attendees who were self-interviewed are presented in Table 5.i. As per mothers' report, older husbands and husbands who were educated at least up to gradual level were more likely to believe that condom use was unnecessary in marital relationship than those without any formal education. Mothers who had late marriage had lower odds of reporting that their husbands believed that condom was not required during sex with spouse. With reference to illiterate mothers educated mothers were more likely to report that their husbands did not use condom as they believed that condom use was not necessary in husband-wife relationship. Late marriage and rural residence were negatively associated with non-use of condom because of reduced pleasure. Odds of not using condom because of reduced sexual pleasure increased with higher education of mothers and their husbands compared to their illiterate counterparts. Respondents whose husbands stayed away from family for 6 months or more were likely to state non-availability of condom as the primary reason for not using condom than whose husbands did not stay outside.

Association of socio-demographic factors with having male sex partner other than husband among the recruited antenatal care attendees who were self-interviewed are presented in Table 5.j. Older mothers were more likely to have male sex partner other than husbands. Mothers with

better socio-economic status were likely to engage in sex with other male partner. Muslims were at higher odds of having extra-spousal relationship than Hindus. Mothers who married late and those with primary level education had lower likelihood of reporting other male sex partner other than their husbands. Mothers whose husbands had better education and high employment status were less likely to report extra-marital relationship.

Association of socio-demographic factors with ever being offered money for having sex with male partner other than husband, among the recruited antenatal care attendees who were self-interviewed are presented in Table 5.k. Mothers with better economic situation and those who were educated up to high-school level were less likely to get offer for money during sex with other male partner. Compared to urban resident rural mothers had higher odds of getting offer for money while having sex with other male partner.

Association of socio-demographic factors with ever accepting money/gift for having sex with male partner other than husband, among the recruited antenatal care attendees who were self-interviewed are presented in Table 5.l. Mothers who were educated up to high-school level were less likely to receive money/gifts during sex with other male partner than those with no formal education. Compared to urban resident rural mothers had higher odds of receiving money/gifts while having sex with other male partner.

Association of socio-demographic factors with receiving injection from nurse/compounder/any health worker, among the recruited antenatal care attendees who were self-interviewed are presented in Table 5.m. Compared to Hindus, Muslims were more likely to receive injections >2 times in the last 6 months. Rural residents had higher odds of receiving injections >2 times in the last 6 months than urban residents.

<u>Section F.</u> Influence of Sexual behavior/experience on the respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior among the antenatal care attendees in Kolkata, West Bengal, India, 2016 [For easier demonstration purpose for this section the independent variables are placed in the column header and the dependent ones in the row headers of the Tables]

Association of age at first sex with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed are presented on Table 6.a. Early sexual debut (age of first sex at age between 15and 18 years) was positively associated with better domain-specific (symptoms of STI and transmission) and overall knowledge of mothers regarding STIs. Respondents experiencing early sexual debut were more likely to rate their sexual experience with husbands as good/ok. Participants having early sexual debut were less likely to experience verbal abuse by their husbands and also less likely to suspect their husbands of being involved in extra-spousal relationship. Association of having first sex before marriage with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed are presented in Table 6.b. Participants who had sex before marriage were more likely to report frequent alcohol consumption by their husbands before having sex and likely to experience verbal abuse. Furthermore, respondents having experience of sex before marriage were more likely to suspect that their husbands were having an extra-marital affair than those who had sex after marriage. Participants who had sex before marriage were more likely to believe that their husbands were engaged in sex with a commercial sex worker compared to those who had sex after marriage.

Association of "ever being forced to have sex" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed are presented in Table 6.c. Association of being ever being forced to have sex with domain-specific and overall STI-related knowledge showed mixed results in unadjusted and adjusted analyses. Women who experienced forced sex were more likely to rate their sexual relationship with husbands or other male sexual partners as "bad" compared to those who did not experience forced sex. History of forced sex was positively associated with higher likelihood of reported vaginal sex during pregnancy.

Association of "ever having anal sex" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed are presented in Table 6.d. Mothers who had experience of anal sex were less likely to have average knowledge regarding transmission and more likely to have good knowledge about complications related to STIs. Experience of anal sex ever with husbands was negatively associated with spousal physical relationship. There was a positive association between experience of anal sex and higher likelihood of alcohol consumption by husbands before sex. Participants who had an experience of anal sex ever in their life were more likely to experience oral or other forms of sex during pregnancy.

Association of "ever having sex with someone who consumed alcohol before having sex" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed are presented in Table 6.d. Experience of ever having sex with someone who consumed alcohol showed positive association with good overall knowledge about STIs. Mothers who had experienced sex with someone under influence of alcohol were more likely to rate their sexual relationship with

husband as bad. Ever having sex with someone who had consumed alcohol was related to higher likelihood of being verbally abused. Respondents who reported having sex with someone who consumed alcohol were more likely to suspect their husbands of being involved in an extra-marital affair and also more likely to believe that their husbands were having sex with commercial sex worker.

Association of "having male sex partner other than husband" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed are presented in Table 6.g. Mothers who reported having male sexual partner other than husband were more likely to have better knowledge regarding symptoms and transmission of STIs. Mothers engaged in extramarital relationship had higher likelihood of reported frequent alcohol consumption by their husbands before having sex. Odds of vaginal sex during pregnancy with husbands appeared to be lower among mothers who reported extra-spousal relationship. Mothers having male sex partner other than husbands were more likely to experience verbal abuse and physical abuse by their husbands. Mothers having male sexual partner were also more likely to suspect their husbands of being engaged in extramarital relationship and of having sex with commercial sex worker.

Association of "being ever offered money for sex with male partner other than husband" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed are presented in Table 6.h. A significant positive association was observed between being ever offered money for sex with male other than husband and participants' knowledge regarding STIs. Mothers who were ever offered money for sex with male partner other than husband were less likely to rate their relationship with their husbands as "good/ok" and had increased likelihood of

verbal/physical abuse. Further, women who were ever offered money for sex with male partner other than husband were more likely to suspect that their husbands might be engaged in extra-marital relationship and were having sex with commercial sex worker. Association of "ever accepting money/gift for sex with male partner other than husband" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed are presented in Table 6.i. A significant positive association was observed between being ever accepted money/gift for sex with male other than husband and participants' knowledge regarding STIs. Mothers who ever accepted money/gift for sex with male partner other than husband were less likely to rate their relationship with their husbands as "good/ok" and had higher odds of reported verbal/physical abuse. Further, women who ever accepted money/gift for sex with male partner other than husband were more likely to suspect that their husbands might be engaged in extra-marital relationship and male sex partner who paid money for sex had sexual relationship with female sex workers.

Association of "suspecting that the male sex partner who paid money for sex has sexual relations with female sex workers" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed are presented in Table 6.j. Participants who suspected that the male sex partner other than her husband had sexual relations with female sex workers were more likely to have average overall average knowledge about STIs and had higher odds of reported physical and verbal abuse.

Section G. Past history of sexually transmitted infections among antenatal care attendees in Kolkata, West Bengal, India, 2016

Distribution of the past history of having symptoms of sexually transmitted infections among recruited antenatal care attendees who were self-interviewed are presented in Table 7a. In the past 6 six months, the most common symptom reported by participants was nausea or vomiting followed by fever, yellowish/dark colored urine and yellowish discoloration of eyes or skin. Among STI-related symptoms, the most commonly reported symptom that they suffered more than once in the last 6 months was lower abdominal pain/low back ache followed by abnormal vaginal discharge, painful micturition and vaginal itch.

Association between respondent's and her husband's medical history and having yellowish discoloration of urine and eye/skin for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7b. Participants whose husbands had a history of STI-related symptom either once or more than once had higher odds of reporting passage of yellowish/dark colored urine and yellowish discoloration of eyes for a prolonged period in the past 6 months.

Association between respondent's and her husband's medical history and having feverish feeling, poor appetite and having nausea and vomiting for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7c. Respondents who had a history of blood transfusion in last six months were more likely to report having fever/poor appetite for a prolonged duration. Participants whose husbands had past history of hepatitis B infection and had suffered from any STI-related symptom for at least once in the past six months had higher likelihood of reporting fever and poor appetite. Respondents

whose husbands had suffered from any STI-related symptom even once in the past six months were more likely to report nausea and vomiting over the same period.

Association between respondent's and her husband's medical history and having foul smelling urethral discharge in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7d. A significant association was found between husbands' history of STI-related symptom for at least once in the past 6 months and participants' likelihood of reporting abnormal vaginal discharge during the same period

Association between respondent's and her husband's medical history and having burning sensation while urinating in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7e. Husbands' history of STI-related symptom for at least once in the past 6 months appeared to be positively associated with history of painful micturition among the participants during the same period.

Association between respondent's and her husband's medical history and having ulcer in private parts in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7f. Respondents' past history of syphilis showed positive association with higher likelihood of reporting genital ulcer in the past six months. Husbands' history of STI-related symptom for at least once in the past 6 months appeared to be positively associated with history of genital ulcer among the participants during the same period

Association between respondent's and her husband's medical history and having itching sensation in urethra in last 6 months among recruited antenatal care attendees who were self-interviewed in Table 7g. Respondents' past history of syphilis showed positive association with higher likelihood of reporting itching sensation around urethra in the past six months. Husbands'

history of STI-related symptom for at least once in the past 6 months appeared to be positively associated with history of itching sensation around urethra among the participants during the same period

Association between respondent's and her husband's medical history and having pain in lower abdomen or lower back in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in 7h. Husbands' history of STI-related symptom for at least once in the past 6 months appeared to be positively associated with history of lower abdominal pain among the participants during the same period.

Association between respondent's and her husband's medical history and having inflammation/swelling in groin in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in 7i. Husbands' history of STI-related symptom for at least once in the past 6 months appeared to be positively associated with history of groin swelling among the participants during the same period.

Association between respondent's sexual behavior/experience and having yellowish discoloration of urine and eye/skin for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7j.The significant positive predictors of past history of passage of yellowish/dark colored urine for prolonged period were forced sex by husbands, experience of anal sex ever, sex with someone who consumed alcohol, non-use of condoms by husbands before planning for baby, having other male sex partner, experience of sex in exchange of money/gifts and sex with other male partner suspected to be in a physical relationship with female sex worker. The significant positive predictors of yellowish discoloration of eyes/skin were experience of anal sex ever, condom use by husbands before planning for baby, having other male sex partner, experience of sex in

exchange of money/gifts and sex with other male partner suspected to be in a physical relationship with female sex worker.

Association between respondent's sexual behavior/experience and having feverish feeling, poor appetite and having nausea and vomiting for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7k. Having force sex with other male partner ever, experience of anal sex ever, condom use by husbands before planning for baby and in a physical relationship with other male were all positively associated with higher risk of reporting fever and poor appetite for a considerable period in the last 6 months.

Association between respondent's sexual behavior/experience and having foul smelling vaginal discharge in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7l. Participants who had sexual debut between 15-≤35 years of age, experience of forced sex by husbands and sex with someone who consumed alcohol were more likely to report abnormal vaginal discharge in the past 6 months.

Association between respondent's sexual behavior/experience and having burning sensation while urinating in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7m. Participants who had an experience of forced sex with husbands and had sex with someone who consumed alcohol before the act were more likely to report burning sensation during micturition.

Association between respondent's sexual behavior/experience and having ulcer in private parts in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7n. History of forced sex with some other make partner and anal sex ever were both positively associated with history of genital ulcers.

Association between respondent's sexual behavior/experience and having itching sensation in urethra in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7o. Mothers with a past history of having sex with someone who consumed alcohol were more likely to report itching sensation around urethra than those which did not have such experience.

Association between respondent's sexual behavior/experience and having pain in lower abdomen or lower back in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7p. A significant positive association was observed between age at first sex and likelihood of self-reported lower abdominal pain/low back ache in the past six months. Participants who had sex with someone who consumed alcohol increased the odds of self-reported lower abdominal pain/low back ache in the past six months.

Association between respondent's sexual behavior/experience and having inflammation/swelling in groin in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 7q. The significant positive predictors of self-reported groin swelling in the past six months were experience of anal sex ever, use of condoms by husbands before planning for baby and physical relationship with other male partner.

Section H. Husband's sexual behavior and past history of sexually transmitted infections among antenatal care attendees in Kolkata, West Bengal, India, 2016

Association between husband's sexual behavior and having yellowish discoloration of urine and eye/skin for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 8a. Husbands' sexual behaviors were positively

associated with higher probability of self-reported passage of yellowish/dark colored urine and yellow color of skin for a prolonged period in the past six months. Mothers who reported that their husbands frequently consumed alcohol before having sex, abused her either verbally or physically and in a relationship with other woman were more likely to report passage of yellowish/dark colored urine for a prolonged period in the past 6 months. Participants whose husbands were abusive and suspected to be in a relationship with other woman were more likely to report passage of yellowish/dark colored urine for a prolonged period in the past 6 months.

Association between husband's sexual behavior and having feverish feeling, poor appetite and having nausea and vomiting for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 8b. Mothers who were verbally abused by their husbands during sex were more likely to report fever and poor appetite for a considerable period of time in the past six months. A positive association was observed between sex during pregnancy and probability of self-reported episodes of vomiting for a prolonged period.

Association between husband's sexual behavior and having foul smelling vaginal discharge in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 8c. The consumption of alcohol by husbands before sex, having sex during pregnancy and husbands who were suspected to be in a physical relationship with other women were all positive predictors of self-reported abnormal vaginal discharge in the past six months.

Association between husband's sexual behavior and having burning sensation while urinating in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 8.d. Participants who reported frequent consumption of alcohol by husbands before sex, experience of sex during pregnancy, being abused verbally or physically during sex and their

husbands were in a probable physical relationship with commercial sex worker were more likely to suffer from burning sensation around urethra for a prolonged period in the last six months.

Association between husband's sexual behavior and having ulcer in private parts in last 6 months among recruited antenatal care attendees who were self-interviewed are presented Table 8e. Frequent consumption of alcohol by husbands before sex and probable relationship with other women were positive predictors of self-reported groin swelling in the past six months. Association between husband's sexual behavior and having itching sensation in urethra in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 8f. Participants who reported frequent consumption of alcohol by husbands before sex, experience of sex during pregnancy, being abused verbally or physically during sex and their husbands were in a probable physical relationship with other women were more likely to suffer from itching around urethra for a prolonged period in the last six months.

Association between husband's sexual behavior and having pain in lower abdomen or lower back in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 8g. Frequent alcohol consumption by husbands before having sex and experience of sex during pregnancy were positively associated with higher likelihood of self-reported lower abdominal pain or low back ache for a prolonged period in the last six months.

Association between husband's sexual behavior and having inflammation/swelling in groin in last 6 months among recruited antenatal care attendees who were self-interviewed are presented in Table 8h. Frequent alcohol consumption by husbands before sex, experience of sex during pregnancy and being abused verbally during sex were significant positive predictors of groin swelling among participants in the past six months.

Section I. Past history of sexually transmitted infections among the husbands of the antenatal care attendees in Kolkata, West Bengal, India, 2016

Distribution of the past history of having symptoms of sexually transmitted infections among husbands of the recruited antenatal care attendees who were self-interviewed is presented in Table 9.a. About 10% husbands suffered from STI related symptoms only once while another 6% had such symptoms more than once in the past six months.

Association of husband's sexual behavior and their history of having sexually transmitted infections in last six months as reported by the recruited antenatal care attendees who were self-interviewed are presented in Table 9.b. Mothers who reported that their husbands consumed alcohol before sex, performed anal sex and vaginal sex on her during pregnancy, physically abused her during sex and in a probable relationship with other women were more likely to suffer from STI-related symptoms in the last six months.

Section J. Approach towards partner notification during past history of sexually transmitted infections among antenatal care attendees and their husbands in Kolkata,

Distribution of the approach towards partner notification during having symptoms of sexually transmitted infections among recruited antenatal care attendees who were self-interviewed are presented in Table 10.a. Approximately 79% mothers believed that if any woman had symptom suggestive of STI she should inform her husband or male sex partner. About 63% reported that they had reported their husbands if they suffered from any symptom/s suggestive of STI in the last 6 months.

Association of socio-demographic factors with the approach towards partner notification during having symptoms of sexually transmitted infections among recruited antenatal care attendees who were self-interviewed are presented in Table 10.b. Participants with better education and whose husbands were older and stayed away from family at a stretch for 6 months or more were more likely to believe that if a woman developed any STI-related symptom she should inform her husband or male sex partner. Respondents who were educated up to graduate level or more and whose husbands were skilled workers were more likely to report to their husbands if they had symptom/s suggestive of STI in the last 6 months.

Association of knowledge regarding sexually transmitted infections including HIV with the approach towards partner notification during having symptoms of sexually transmitted infections among recruited antenatal care attendees who were self-interviewed are presented in Table 10.c. Participants with better domain specific (about symptoms, transmission and complications) and overall knowledge related with STIs were more likely to believe that if a woman had symptom/s suggestive of a STI then she should inform her husband or male sex partner compared to those having poor STI-related knowledge. Respondents with better domain specific (about symptoms, transmission and complications) and overall knowledge related with STIs were more likely to report if she had symptom/s suggestive of a STI to her husband or male sex partner compared to those having poor STI-related knowledge.

Association of own perception of HIV and other sexually transmitted infection risk with the approach towards partner notification during having symptoms of sexually transmitted infections among recruited antenatal care attendees who were self-interviewed are presented in Table 10.d. Participants who had been verbally abused by their husbands were less likely to believe in partner notification than those who did not have such experience. Respondents who had vaginal

sex during pregnancy with husbands were more likely to report symptom suggestive of a STI than those not having sex.

Participants who perceived themselves at risk of STI other than HIV were more likely to believe that if a woman had any symptom suggestive of a STI then she should inform her husband/male sex partner than women reporting no STI risk. Participants who perceived their husbands at risk of STI other than HIV were more likely to believe that if a woman had any STI-related symptom then she should inform her husband/male sex partner than women reporting no STI risk of their husbands. Respondents who perceived themselves at risk of STI other than HIV had higher odds of self-reported STI related symptom in the last 6 months than those reporting no risk. Mothers who perceived their husbands at risk of HIV and other STIs were more likely to report STI-related symptom in the last 6 months than mothers reporting no risk of their husbands.

Section K. Distribution of the general, sexually transmitted infection related and antenatal healthcare-seeking among antenatal care attendees and their husbands in Kolkata, West Bengal, India, 2016

Distribution of the general and sexually transmitted infection related healthcare-seeking among recruited antenatal care attendees who were self-interviewed are presented in Table 11.a. The average time to reach the hospital (where the current study was conducted) was 81.63 minutes [95% Confidence Interval (CI)=79.02-84.24]. Majority of the respondents usually reached hospitals by public transport. Approximately 70% told that they would prefer to visit or had visited Government hospital if they ever develop or had suffered from STI-related symptoms and about 14% stated that they did not want to seek care from any health care facility.

Distribution of the antenatal healthcare-seeking among recruited antenatal care attendees who were self-interviewed are presented in Table 11.b. On an average each pregnant woman visited antenatal care center of the hospital (where the current study was conducted) 3.54 times (95% CI=3.44-3.64). Approximately, 97% had planned an institutional delivery.

Section L. Distribution of the perception of risk for acquisition of sexually transmitted infections and HIV among antenatal care attendees and their husbands in Kolkata, West Bengal, India, 2016

Distribution of the perception of risk for acquisition of sexually transmitted infections and HIV among antenatal care attendees and their husbands are presented in Table 12.a. Among 1670 mothers, 306 (18%) perceived themselves at risk of HI/AIDS and 615 (37%) perceived themselves at the risk of STI other than HIV. Further, 276 (17%) perceived their husbands at risk of HIV and 408 (24%) perceived their husbands at the risk of STI other than HIV. More than half of the participants had low overall self-perceived risk of acquisition of STI including HIV.

Section M. Health perception, own medical history and husband's medical history among antenatal care attendees in Kolkata, West Bengal, India, 2016

Distribution of health perception, husband's medical history and own medical history among recruited antenatal care attendees who were self-interviewed are presented in Table 13.a. Most of the participants perceived their health in general to be good. Only 13 and 5 respondents reported that their husbands had a past history of hepatitis B and syphilis, respectively. About 38% participants reported that their husbands were circumcised. Only 18 mothers had a prior history

of blood transfusion and 12% had received hepatitis B vaccines before. Approximately, 38 and 8 respondents reported a prior history of hepatitis B and syphilis, respectively.

Association of sociodemographic factors and health perception with husband's medical history as reported by the recruited antenatal care attendees who were self-interviewed are presented in Table 13.b. A positive association was observed between higher age of husbands and likelihood of suffering from hepatitis b ever. Compared to Hindus, Muslims were more likely to report circumcision of their husbands.

Association of husband's sexual behavior with husband's medical history as reported by the recruited antenatal care attendees who were self-interviewed are presented in Table 13.c. A positive association was found between husbands frequent alcohol consumption before sex and higher likelihood of suffering from syphilis ever. Participants who suspected that their husbands might be in a physical relationship with another woman were more likely to suffer from syphilis than those who did not report such suspicion.

Association of sociodemographic factors with respondent's medical history among recruited antenatal care attendees who were self-interviewed are presented in Table 13.d. Compared to Hindus Muslims were less likely to suffer from hepatitis b and syphilis in the past.

Association of respondent's sexual behavior/experience with respondent's medical history among recruited antenatal care attendees who were self-interviewed are presented in Table 13.e. Mothers who reported that their husbands used condom before pregnancy had lower likelihood to suffer from hepatitis bin the past.

Association of husband's sexual behavior and relevant medical history with respondent's medical history among recruited antenatal care attendees who were self-interviewed are

presented in Table 13.f. Participants who reported to be verbally abused by their husbands during sex were more likely to suffer from syphilis in the past than those who did not report such experience.

Section N. Distribution of currently experienced symptoms of sexually transmitted infections, Hepatitis B and HIV among antenatal care attendees and their husbands in Kolkata, West Bengal, India, 2016

Distribution of currently experienced symptoms of sexually transmitted infections, Hepatitis B and HIV among antenatal care attendees and their husbands in Kolkata, West Bengal, India are presented in Table 14.a. The commonly reported symptoms among participant were abnormal vaginal discharge (38%) followed by lower abdominal pain (23%), itching in genital area (19%) and burning sensation during urination (11%). About 4% reported groin swelling and 2% reported genital ulcers. Among other symptoms, 10% reported yellow discoloration of urine/skin/eyes, fever/loss of appetite (10%) and pain during sexual intercourse (12%).

Section O. Distribution of Hepatitis B among antenatal care attendees in Kolkata, West Bengal, India, 2016

Distribution of Hepatitis B among antenatal care attendees in Kolkata, West Bengal are presented in Table 15.a. Of total 1670, test results for hepatitis B were not available among 63 mothers due to some technical issues and inconclusive results. Therefore, out of 1607 participants 44 were positive for hepatitis B infection giving rise to a burden of 2.74.

Socio-demographic distribution of self-interviewed (N=1607) antenatal care attendees across Hepatitis B status are presented in Table 15.b. Among hepatitis b infected mothers, the mean age was 23.14 years (95% CI=21.85-24.42), majority were high-school educated, Hindu by religion, all of them were not working currently, most of their husbands were skilled workers, rural residents and only 3 of them reported that their husbands stayed away from family for 6 months or more at a stretch for work.

Socio-demographic distribution of self-interviewed (N=1607) antenatal care attendees across obstetric history are presented in Table 15.c.i. Among hepatitis b positive mothers, more than half of them were becoming pregnant for the first time, only 8 had past history of abortion and another 2 had a past history of stillbirth.

Distribution of medical own medical events of self-interviewed (N=1607) antenatal care attendees across obstetric history are presented in Table 15.c.ii. Among 44 hepatitis positive cases, only one participant reported history of blood transfusion, four had a history of being vaccinated with hepatitis B and almost all received injections from health care providers in the last 6 months.

Association of socio-demographics with hepatitis B sero-positivity among antenatal care attendees are presented in Table 15.d. Compared to Hindus, Muslims were less likely to be positive for hepatitis B infection.

Association of socio-demographics with Hepatitis B sero-positivity among antenatal care attendees are presented in Table 15.e. Mothers reporting either average or poor general health were less likely to be hepatitis B infected than those with good perception.

Association of Respondent's sexual behavior and experience with Hepatitis B sero-positivity among antenatal care attendees are presented in Table 15.f. Risk of hepatitis B infection was low among participants whose husbands used condom before pregnancy. Participants in a physical relationship with other male partner were more likely to be hepatitis B positive than who were not engaged in such relationship.

Association of husband's sexual behavior with Hepatitis B sero-positivity among antenatal care attendees are presented in Table 15.g. None of the variables related to husbands' sexual behavior were found to be statistically significant predictors of hepatitis B infection**.**

Association of respondent's attitude towards partner notification and current symptoms with Hepatitis B sero-positivity among antenatal care attendees are presented in Table 15.h. Participants who believed that a woman should report STI-related symptoms to her husbands had lower odds to be hepatitis B infected than those who did not believe so. Odds of having symptoms like yellow-colored urine/skin/eyes and fever/loss of appetite for a prolonged period in the last 6 months increased the risk of hepatitis B infection.

No association was observed between hepatitis B infection and prior history of blood transfusion or blood donation and childhood hepatitis B immunization (data not shown here) which might be due to lack of statistical power.

Section P. HIV-1 among self-interviewed antenatal care attendees in Kolkata, West Bengal, India, 2016

Distribution of HIV-1 among self-interviewed (N=1623) antenatal care attendees are presented in Table 16a. Of total 1670 eligible participants, HIV sero-positivity reports were available for

1623 mothers. Reports of 47 eligible mothers were excluded from the analyses as because of some technical glitz their hospital registration id were wrongly entered into the lab registry of the hospital and we could not match their id with our unique tab generated codes. Of 1623 ANC attendees, 27 were found to be HIV-1 positive giving rise to a burden of 1.66 (95% CI=1.04-2.29%).

Socio-demographic distribution of self-interviewed (N=1623) antenatal care attendees across HIV-1 status in Kolkata are presented in Table 16.b. Among 27 HIV-1 positive mothers, average age was 25.15 years (95% CI=23.31-26.98) and got married at mean age of 19.52 years (95% CI=17.42-21.61), majority were high-school educated, Hindu by religion, currently not working and urban residents. The mean age of husbands was 32.74 (95% CI=30.17-35.32), most of them were skilled workers and 9 of them stayed away from families for 6 months or more at a stretch.

Socio-demographic distribution of self-interviewed (N=1623) antenatal care attendees across obstetric history are presented in Table 16.c. Among 27 sero-positive mothers, most of them were prim-gravidae, 9 had a history of miscarriage or abortion and none had a history of stillbirth.

Association of socio-demographic factors with HIV-1 sero-positivity among antenatal care attendees are presented in Table 16.d. in unadjusted models, higher age and higher per capita family income were significant predictors of HIV risk. In the adjusted models, it was observed that participants with higher education were less likely to be HIV infected compared to their illiterate counterparts. Respondents who reported that their husbands never required to stay away from family for 6 months or more at a stretch had lower odds to be positive than those whose husbands stayed away from family. Rural residents were at lower HIV risk than their urban counterparts.

Association of obstetric history with HIV-1 sero-positivity among antenatal care attendees are presented in Table 16.e. In the unadjusted model, higher parity increased the odds of having HIV but no longer remained significant after adjusting potential confounders.

Association of own knowledge about sexually transmitted infections including HIV and attitude towards HIV patients with HIV-1 sero-positivity among antenatal care attendees are presented in table 16.f. There was no association between STI included HIV related knowledge and HIV risk.

Association of own sexual behavior/experience with HIV-1 sero-positivity among antenatal care attendees are presented in Table 16.g. Participants who reported having sex with someone who consumed alcohol had higher likelihood to be HIV positive compared to those who did not report such experience. Mothers who received injection from a nurse/compounder/any health worker in the last 6 months were less likely to be HIV positive than those who did not receive any injection.

Association of husband's sexual behavior with HIV-1 sero-positivity among antenatal care attendees are presented in Table 16.h There was no association between husbands' sexual behavior and HIV risk.

Association of own and husband's medical history and past history of symptoms suggestive of sexually transmitted infections with HIV-1 sero-positivity among antenatal care attendees are presented in Table 16.i. A positive association was observed between prior history of blood transfusion and higher odds of being HIV infected. Participants who had a past history of syphilis had higher HIV risk than those without such history. Self-reported history genital lesion and groin swelling in the past six months also increased the odds of being HIV positive compared to those who did not report such symptom.

Association of attitude towards partner notification for symptoms suggestive of STIs and perception regarding risk of sexually transmitted infections including HIV with HIV-1 sero-positivity among antenatal care attendees are presented in Table 16.j. Participants who perceived themselves to be at risk for HIV were more likely to be HIV positive than those who did not perceive to be at HIV risk. Furthermore, respondents who perceived their husbands to be at risk for HIV also had higher HIV risk than who did not have such perception.

Association of having current symptoms suggestive of sexually transmitted infections with HIV-1 sero-positivity among antenatal care attendees are presented in Table 16.k. There was no association between having current symptoms suggestive of STI and HIV risk.

DISCUSSION

To the best of our knowledge the present study was one of the few studies[46] to assess socio-demographic profile, obstetric history, sexual risk behaviors, risk perceptions and predictors of STI including HIV sero-positivity among married Indian pregnant women. We believe this was probably the first study where touch-screen C-ACASI was used for data collection on sensitive issues among pregnant Indian women. This technology was used before for eliciting information on sensitive issues among wives of truckers in India,[42] young men in urban India,[43] adolescents[44] and young married women.[45] Consistent with previous studies in Seattle, Washington,[47] Zimbabwe,[48] Brazil,[49]Vietnam[50] and in India[43] participants in the current study were more likely to report high risk behaviors by computerized interviewing methods, self-interviewed C-ACASI compared to interview-administered. This suggests that C-ACASI may be considered as an alternative data collection tool for sensitive issues in health care settings even among subjects with poor computer literacy and lower educational level.

STI related knowledge including HIV

About 26% had poor overall knowledge about STI including HIV in the present analysis. Previous studies in India revealed that basic knowledge about HIV/AIDS among women was inadequate in Mumbai[51] while mothers in South India[37] and in Pune[40] showed relatively better knowledge. About 94% pregnant women in Mangalore, South India had heard of HIV and 60% had better knowledge regarding risk factors for HIV acquisition.[37] More than 80% mothers in the current study believed that HIV infected might not appear healthy and were unaware about the asymptomatic nature of infection and transmission risk. Similar finding was reported from

other countries around world for example pregnant women in Hong Kong had fairly good general knowledge of HIV/AIDS,[52] about 79% had basic knowledge about HIV in Sudan[53] and in Burkina Faso, West Africa where about one-third women were aware that a person could be infected without having symptoms for HIV.[3] Therefore, raising awareness regarding asymptomatic nature of the infection might be helpful in forming risk perception. Majority of participants appeared to have misconceptions about HIV transmission and prevention methods. In particular, there was poor knowledge about transmission route due to mosquito bites and sharing of foods. Synthesis of data from Demographic and Health Surveys from 2000 through 2005 indicated that a significant proportion of 15-49 years old women in resource poor settings were unaware of the fact that wearing condom could prevent HIV infection (Africa=22-61%, Central Asia=58-72%, South and Southeast Asia=34-73%),[54] which corroborated with the present study. Somewhat similar findings were also observed among adult Vietnamese women where 70% believed that one could get HIV from mosquito bites, 77% thought it was possible for a healthy-looking person to have HIV and 90% knew consistent condom use reduced transmission risk.[55] Consistent with previous study in India,[25] and in Sudan[53] nearly half of mothers had knowledge about transmission risk through breastfeeding but the proportion was observed to be less in China,[56] Apart from information about STIs in general, people need to have good knowledge regarding potential modes of transmission so that they can protect themselves and their babies from infection. Given adequate knowledge is a predictive of formation of intent to change harmful practice patterns, it is essential to identify effective motivational strategies that motivate change and sustain newly adopted healthy behaviors. HIV is social problem greatly influenced by socio-cultural factors. Therefore, dissemination of comprehensive culture-sensitive knowledge about HIV/AIDS through well-designed

interventions are required to bring the desired change towards reduction of stigmatization through dispelling misconceptions.

Participants with higher education were more likely to have good overall knowledge about STI including HIV which was consistent with prior studies among adult women in Vietnam,[55] ANC attendees in Sudan[53], pregnant women in South Africa,[57] and Indian studies in Delhi[36, 58] and Pune[40]. Respondents who were currently working also had higher odds of good overall knowledge about STIs. One of the probable explanations might be that higher education might lead to employment, better income and easy access to information quite similar to what was reported in Vietnam.[55] Another potential benefit of having good knowledge about STIs is that people can perceive their own risk, recognize its seriousness and subsequently may engage into safer sexual activity.[59]

Contradictory to a previous study,[40] higher employment status of husbands was negatively associated with mothers' knowledge regarding complications related to STIs. Consistent with previous studies in Vietnam,[55] and in India[60, 61] participants residing in rural areas were less likely to be knowledgeable about STIs One of the possible reasons might be that they were less exposed to information about HIV/AIDS compared to urban women. Other reasons might be low literacy level and socio-cultural context in rural India.

STI related attitude including HIV

The proportion of ANC attendees having poor attitude regarding acceptance of HIV/AIDS patients in the society was high and surprisingly having average/good knowledge (as opposed to poor) regarding STI including HIV did not show much betterment towards positive attitude.

Potential explanation should include the lack of translation of knowledge into attitude among participants most likely because of being influenced by social structure and cultural norms. Similar findings and explanation indicating role of Indian societal structure and cultural environment towards less acceptance and high resistnace for the HIV/AIDS patients were also evidenced in the prior literature [36] The positive attitude toward HIV/AIDS was found to be poor among adult women in Vietnam[55], Ethiopia[62] and prior study in India[36]. Thus, it seems HIV is still stigmatized in India and people show discriminatory behavior against people living with HIV. Another reason may be that Indian women in general are ignorant about HIV/AIDS and are less exposed to information related to HIV. However, respondents with higher education were more likely to report positive attitudes towards HIV/AIDS which was consistent with a study in Vietnam.[55] Therefore, as poor sexual health is driven by social alienation proper counseling and generating awareness regarding HIV among women particularly with low levels of education appeared to be an important public health measure.

Husbands' sexual behavior and experience

Globally violence against women especially by intimate male partner continue to be a major public health concern including and India is no exception to it. According to UN estimate, about one in three women is a victim of intimate partner violence at some point in their lifetime. In addition, partner violence has been associated with multitude of adverse health outcome including maternal morbidity, mortality, poor mental health and vulnerability to HIV/AIDS.[63] In the present analysis, about 20% mothers reported that their husbands used alcohol most of the times or sometimes alcohol before sex. Approximately 9% of respondents experienced verbal abuse and another 6% were physically assaulted during sex. About 61% had an experience of

forced sex by their husbands. However, data on spousal violence against women are limited, more so little is known about physical and verbal abuse during sexual encounter.

A recently published systemic review and meta-analysis on intimate partner violence and HIV infection among women revealed a moderate statistically significant association between intimate partner violence and HIV infection among women.[64, 65] Approximately 9% suspected that their husbands might be engaged in extra-marital affair and another 4% told that their husbands might be in a relationship with a commercial sex worker in the current study. Researchers have argued that majority of women in Asian are at risk of HIV not because of their own sexual behavior but because of their partners' unsafe sexual practices. The situation is further fueled by strong patriarchal Asian culture, intimate partner violence, large scale migration/mobility and stigma/discrimination associated with HIV, all these factors are likely to heighten a woman's risk to HIV. According to UNAIDS report it was estimated that >90% of the 1.7 million women living with HIV in Asia acquired HIV either from their husbands or long term partners. There had been a steady increase in the proportion of Asian women living with HIV since 1990. (increased from 17% in 1990 to 35% in 2008) It is estimated that approximately 75 million Asian men are engaged in paid sex and a further 20 million are having sex with other men or injecting drug users. Unfortunately, majority of these are either married or going to be married putting at 50 million women at risk of HIV. Similar situation was reported from previous Indian studies[35, 66] where >90% of women living with HIV in 2008 (approximately 38%) acquired it from their husbands or intimate partners.[35] Thus, targeting female partners of male suspected to have high-risk behaviors particularly in conservative Indian society and emphasizing the importance of protecting female partner seemed to be an essential component of HIV control program in India. Targeted intervention for the husbands of reproductive age

women of the study area seemed to be the need of the hour, as still in this part of the globe, the dominace of the male gender in action and decision-making regarding sexual and other aspets were quite evident and profound in the family.

Domestic violence against women continues to be a major public health problem in India. Analysis of the Indian National Family Health Survey-3 (2005-2006) data showed that 37.4% wives experienced intimate partner violence.[34] Research by the International Center for Research on women reported that 52% of the women experienced some form of intimate partner violence during their lifetime. Another household survey among adult women also indicated that 26% had experience of spousal physical violence during the lifetime of their marriage.[68] Although intimate relationships are supposed to be loving, supportive and protective, unfortunately some of partners behave abusively. However, it appeared that married Indian women being in a chronic cycle of abuse and due to social phobia as well as economic independence, they are less likely to raise their voice.

As reported elsewhere and in India it appeared that alcohol use was a major contributor to the occurrence of intimate partner violence.[68-70] In the current study about 20% respondents reported frequent alcohol use by their husbands before sex.

Consistent with previous studies educated men were less likely to perpetrate violence in the current study. In addition, women with better education were less likely to experience violence. It appeared with increasing education men become more flexible and are less likely to control their partners. Given quality of sexual relationship is one of the important determinants of violent male behavior, there is a need to recognize that achieving gender equality will likely to reduce intimate partner violence in this deep seated patriarchal Indian society.

About 9% participants suspected spousal infidelity and nearly 4% believed that their husbands were engaged in sex with commercial sex worker. Similar findings about extra-marital affair of husbands were reported from African countries including Uganda,[67] Mexico[71] and other Asian countries including India.[66] There is growing evidence that partners' extramarital liaisons exacerbate women's HIV vulnerability. Efforts should be directed towards strengthening marital bond and discouraging extra-marital affair among male partner, one of the essential components of the widely promoted ABC (abstinence, be faithful and condom use) approach for HIV prevention.

Own sexual behavior

As sexual activity during pregnancy is rarely discussed data related to sexual behavior among married Indian women are very scarce. The present analyses revealed high-risk sexual behavior among ANC attendees in a tertiary care hospital in Kolkata. About 11% mothers had sex before reaching 15 years of age and 9% had sex before marriage. The observed figures was similar to that in Beijing, China where 9% female students reported pre-marital sexual activities[72] but higher than in other Indian studies including Pune, Maharashtra[73] and Delhi.[74]

Consistent with previous study among Thai women,[75] it appeared that vaginal sex was the most commonly practiced sexual experience among pregnant women in Kolkata. About 5% reported to have engaged in anal sex during pregnancy which contradicted with a study in China.[76] but corroborated with findings as reported by Pauleta et al.,[77] and in Iran.[78]. However, more than half of the participants reported ever having anal sex which might be associated with prevention

of pregnancy as reported elsewhere.[79] One of the probable explanations might be that pregnant woman perceived anal sex to be safer than vaginal sex and might not harm the baby.

About 68% used condom before pregnancy and the most common reason reported for non-use of condom was that no need in spousal relationship followed by reduced pleasure. About 5% reported to be engaged in extra-marital relationship. Multiple sexual partner was reported by 16 ANC attendees. About 74% did not use condom while having sex with other male partners.

A huge gap was observed between participants' STI related knowledge and practice. Although participants had better STI-related knowledge they were engaged in high risk behaviors.

Contrary to current observations, a more conservative attitude toward sexual behavior was observed among Chinese pregnant women where 93% of pregnant women reported an overall decline in their sexual activities during pregnancy.[76]

General and STI related health seeking

A significant proportion of the participants reported that they had or would be seeking care from designated health care facilities if they suffer or suffered any STI-related symptom. Although effective management of STI is an essential component of HIV control program and provides a unique opportunity for prevention of adverse maternal and neonatal health outcomes, people are reluctant in testing and seeking treatment. A study in Beijing, China by Zhao et al. found that only 39% patients sought treatment from standard STD clinics and majority sought treatment at pharmacies.[80] Another study in Thailand indicated that only 25% STI cases visited health care centers for treatment and majority sought treatment from pharmacies.[81] Therefore, serious underreporting of STI cases in health care facilities may mislead the Government and policy

makers regarding the magnitude of the problem and subsequently may fuel the spread of HIV epidemic through sexual transmission. Thus, appropriate screening, counseling and treatment, if required, should be provided to all at-risk individuals seeking care at health care facilities and generating awareness in general public through health education appeared to be essential in order to contain this silent STI epidemic in this country.

Perception of risk for STI including HIV

Alike previous studies in India for example 19.4% pregnant women in western India,[82] 12% married women in Mumbai[51] and 74% pregnant women in Mangalore, South India[83] and elsewhere including 36.7% in Hong Kong[52] a considerably high proportion of women in our study perceived themselves to be at risk for HIV. Similar finding was reported from Burkina Faso and where about one-third women who were aware that a person could be infected without having symptoms perceived themselves to be at risk for HIV.[3] Thus, empowering women through education so that they can take firm decision about voluntary HIV testing and counseling themselves are urgently required.

Partner notification regarding STI-related symptom

Only 79% indicated a strong believe that a woman should inform their spouse of their STI-related symptoms and 63% reported that they had notified their spouse of their STI-related symptom/s. Partner notification is a crucial step in prevention of further transmission of infection from index case to sexual partner.

Self-reported symptoms suggestive of STI

Intuitively, as participants were pregnant the most common symptom reported was lower abdominal pain and vaginal discharge. About 15-17% women reported other STI-related symptoms included abnormal vaginal discharge, painful urination and itching in genital area in the past 6 months. Very few participants reported lesions suggestive of genital ulcer and groin swelling. These findings corroborated with previous studies in, Zimbabwe [84], China[56] and prior studies in south India.[18, 85]

This low rate of self-reported symptoms might also be related to the fact that majority of STIs are truly asymptomatic. This asymptomatic nature of STI was reported by many researchers in the related field.[56, 86] A high prevalence and incidence of asymptomatic STIs (80% of the participants with chlamydia and gonorrhea were asymptomatic) was diagnosed in selected populations from five different countries (China, India, Peru, Russia and Zimbabwe).[86] In addition, positive predictive value of different STI-related symptoms like vaginal or urethral discharge used in the syndromic management of STIs was considerably low.[86] Perhaps the most concerning fact is that individuals who do not have symptoms are less likely to seek testing and treatment. Thus, screening of all pregnant women for common STIs and eliciting sexual history are likely to the best opportunity to achieve adequate coverage as well to reduce the disease burden and adverse pregnancy outcomes.

Substance abuse

Having sex under the influence of alcohol was found to be a risk factor for HIV and other STI acquisition probably due to higher intentions of engaging in unprotected sex[87, 88] and engaging

in extramarital relationships.[89] A study in Chennai found that alcohol use before sex was positively associated with unprotected sex with non-regular partner.[83] Alcohol consumption might reduce risk perception and increase risky sexual behavior. Given risky sex intentions are related with actual risk behavior, raising awareness regarding responsible alcohol use and its role in sexual risk including transmission HIV may be of public health importance.

Prevalence of Syphilis/Hepatitis B/HIV and associated risk factors

Despite majority reported monogamous relationship and condom use before trying for baby pregnant women in this study had a considerable burden of STIs including HIV and Hepatitis B. None of them were found reactive for syphilis.

Syphilis prevalence

None of participants were found to be sero-positive for syphilis in the current study which corroborated with a prior study in Punjab.[20] Given adverse pregnancy outcomes can be effectively prevented by treatment WHO recommended that at least 95% pregnant women should be tested for syphilis during their first antenatal visit in order to eliminate mother-to-child-transmission of the infection. Yet the recent estimate showed that globally about 1 million pregnant women were infected with syphilis in 2012 and 350000 adverse pregnancy outcomes were attributable to syphilis. The most affected region was Africa and Southeast Asia.[90] In India about 0.15% of pregnant women attending ANC clinics during 2015-16 were found to be positive for syphilis with a marked variation across states having prevalence estimate ranging from 2.86% in Arunachal Pradesh to 0.6% in Tripura and West Bengal during 2010-11.[54] The

current finding could be explained by the fact that methods used for the detection of syphilis might have false negative results due to excess antibody (prozone effect) or it might be due to low sensitivity (85-98%) of rapid test or tests performed poorly by laboratory technician or actual incidence of syphilis declined among pregnant women in Kolkata.

Hepatitis B prevalence

Of total 44 mothers were found positive for hepatitis B infection giving a burden of 2.74% (44/1607). Though reliable data regarding hepatitis B infection in pregnancy is limited in India, the synthesis of data from previous studies found that the overall prevalence of hepatitis B infection among pregnant women in India ranged from 1% to 9% across different states of India.[26] In almost in all regions the hepatitis B burden as observed among study subjects was comparable to that from Gujarat (2.9%),[12] Punjab (2.4%)[20], Goa (1.9%)[91] with minor variations but higher than the pooled estimate from 15 tertiary care centers across India (0.82%)[91] and another study in north India (1.11%).[92] Further, considering the prevalence estimate form each center showed marked variations: Bangalore (4.6)% which was higher than in Pune (1%), Hyderabad (1.7%), Nagpur (0.5%), Lucknow (1.2%), Mumbai (0.8%) and Kolkata (1.1%).[91] This indicated that the prevalence of hepatitis B infection was significant among pregnant women and thus introduction of routine screening of all pregnant women, at-birth prophylaxis with specific anti-hepatitis virus immune globulin as well as hepatitis B vaccination in similar settings would likely to reduce vertical transmission.

After adjusting for potential confounders, the likelihood of hepatitis B infection remained significantly higher among women who were in physical relationship with other male, which

corroborated with previous studies in Nigeria.[93, 94] and in US.[95] In areas with low hepatitis B endemicity, sexual contact remains the predominant mode of transmission while perinatal transmission is the main mode of transmission in areas with high endemicity.[96] The risk of hepatitis B was low among participants who were Muslims and reported condom use by their husbands. Consistent with previous in Gujarat[97], mothers who reported yellow discoloration of urine/skin in the past six months were more likely to hepatitis B positive. Interestingly, prevalence of hepatitis B infection was found to be significantly different among Chinses pregnant women older than 20 years of age.[98] Although previous studies revealed significant association of age,[92, 97, 99] education,[99, 100] recipients of blood products[101] and parity[92, 93], none of the socio-demographic factors and other relevant parameters were found to be significantly associated with hepatitis B in the current analyses. Partly, this explanation is supported by the fact that it might be due to the lack of statistical power due to small sample size of hepatitis B infected mothers. As reported in previous studies in Nigeria,[93, 94] the current study did not show any association between parity and hepatitis B infection. This might be due to universal precaution adopted by medical staffs and almost all pregnant women have to undergo routine pre-natal sero-logical screening for hepatitis B infection at health care facilities.

Researchers have argued that in South Asian countries people especially young people may be infected with hepatitis B by horizontal transmission through contact of non-intact skin or mucous membrane with tears, saliva or blood containing secretions or through sharing tooth brushes though exact mechanism is not completely understood.[24, 101] Hepatitis B vaccine was introduced in the universal immunization program of India in ten states of India during 2007-2008 and scaled-up to the entire country in 2011-12.[102, 103] However, the coverage with three doses of hepatitis B vaccine at 6, 10 and 14 weeks with an additional dose at birth was found to be lower

than the other routine childhood immunization[24] though the efficacy of the vaccine was found to be high and was effective in reducing the rate of hepatitis B infection.[104] Therefore, vaccination of child as per the immunization schedule appeared to be one of the most effective public health measures to contain hepatitis B infection in the population.

HIV

The overall HIV prevalence among ANC attendees was observed to be 1.66% (95% CI=1.04-2.29) in the current study. The observed prevalence was much higher than the national estimate among adult population which was estimated to be 0.26% (0.22-0.32%) at the end of 2015 and other high prevalent states of India including some north-eastern states like Manipur (1.15%), Mizoram (0.80%), Nagaland (0.78%), some southern states like Andhra Pradesh (0.66%), Karnataka (0.45%) and some western states like Gujarat (0.42%) and Goa (0.40%). The states in the eastern part including Odisha, Bihar and West Bengal had low adult HIV prevalence in the range of 0.21-0.25% at the end of 2015. According to the NACO report although the adult HIV prevalence showed a steady decline from an estimated peak of 0.38% in 2001 through 0.34% in 2007 to 0.26% in 2015, these estimates varied greatly within states, within districts and different sentinel groups.[54] For example, Karnataka is considered a high HIV prevalence state with an estimated 0.45% adult HIV prevalence and 0.36% burden among pregnant women during 2010. However, one of the districts in northern Karnataka, Bagalkot, showed 1.26% HIV sero-positivity among ANC attendees in 2010.[105, 106] Thus, the interpretation of these prevalence estimates should be done with caution.

Under the perception that pregnant women represent a low-risk population, an estimate of HIV prevalence in this group is considered a proxy for the general population. The HIV prevalence data was derived from the HIV Sentinel Surveillance (HSS) conducted by the NACO under the supervision of the National Institute of Health and family Welfare. A large annual sentinel surveillance is conducted in the third quarter of each year to collect data from different sun-groups of population (high vs low risk) over a span of three months from designated sentinel or high-risk group (HRG) sites, for example STI clinics, public-sector ANC clinics and some high-risk group clinics across the country. Data was collected based on consecutive sampling strategy and unlinked anonymous blood tests were conducted for eligible subjects as per the guideline of NACO. The sample size was fixed at 400 for pregnant women and 250 for other sentinel groups (female sex worker, men who have sex with men, injecting drug users, long distance truck driver and migrant population). Although there has been considerable expansion of these sentinel sites, methodological advancement and significant improvement in the estimation process, the uncertainties associated with these pooled HIV prevalence estimates are still lingering. The assumptions, statistical models applied, geographical representativeness, estimated size of the population with low and high risk behavior, replacement values, calibration factors and the need to use the same value in subsequent years were some of the limitations of the current methodology pointed out by some of the researchers.[13, 107, 108] According to Pandey et al.,[108, 109] it was concluded that despite of required adjustment and calibration in the current method of HIV prevalence estimates the difference between the current estimate and previously published data did not represent a true decline at the population level and there had been an increasing trend of HIV epidemic in previously defined low prevalence Indian states including Puducherry, Jharkhand, Bihar, Orissa, Rajasthan and West Bengal. According to Dandona et al.,[110] the

currently used official HIV estimation method in India based on sentinel surveillance data from large public-health hospitals were likely to be such higher than the population estimate at the district level. A population base study was conducted among 13838 people aged between 15 and 49 years in Guntur district, Andhra Pradesh, the adjusted HIV prevalence was 1.70% with marked difference in estimate among people in lower and upper half of a standard living index (SLI, 2.58% vs 1.20%). There were also discrepancies in HIV prevalence data among pregnant women attending the public-sector hospitals in South Indian state. The overall HIV prevalence was 1.67 among pregnant women at the population level but the estimate was 3.95% among pregnant women who attended ANC clinics in public sector with a marked difference by their socio-economic status. (3.61% HIV in the lowest SLI vs 1.08% in the remaining). He argued that low utilization of public hospitals by people in general, over-representation of the poor socio-economic group in these Government run health care facilities, referral of HIV-positive or suspected cases from district hospitals as well as by private practitioners had contributed to overestimation of HIV prevalence among ANC attendees in Guntur district. Furthermore, researchers argued that ANC attendees being young, sexually more active and at risk of unprotected intercourse, the prevalence estimated among them might be higher than those adult women in general population.[108] Yet, in another recently published article by Sinha et al.,[111] she argued that transmission risk of HIV might be high in unsuspecting monogamous women that might led to a much higher rate of vertical transmission compared to what had been reported by HIV surveillance data under NACO. In light of the above of the above discussion, given large sample size, robust sampling strategy over a sustained period and large public-health hospital in the capital city of West Bengal, the study population might be considered as a representative sample of ANC attendees in Kolkata and HIV burden might be also considered valid. However,

to obtain a more accurate estimate of HIV prevalence in metro city of Kolkata we need a longitudinal community-based study with a more robust data collection method.

Consistent with prior studies in Hong Kong,[52] and in Uganda[112] participants with higher level of education had lower HIV risk compared to their illiterate counterpart. Therefore, targeted intervention regarding HIV risk should be more be more focused for women at risk, particularly those at lower education levels.

Although evidence regarding alcohol use by intimate partner before sex and sexual risks for HIV/AIDS during pregnancy is patchy, a systemic review of empirical findings from sub-Saharan Africa suggested that male sex partner's drinking increased HIV risk among women in general.[113] Therefore, a brief culturally adapted sexual risk reduction strategies along with substance abuse treatment could be feasibly integrated with the ongoing HIV testing and counseling centers. Given marital sex increases women' risk of HIV acquisition probably through their partner's extramarital sexual relationship and forced sex in Asian countries including India care should be taken to protect married women through proper counseling and awareness generation.

Participants who reported that their husbands stayed away from family for 6 months or more at a stretch were more likely to be HIV positive compared to those whose husbands never stayed away. A recently published systemic review on labor migration and HIV risk revealed that prolonged and/or frequent absence from family might be associated with a heightened HIV risk among men.[114] Although the mechanism of HIV acquisition among labor migrants was complex but it might be associated with multi-partnering, non-spousal sexual relationship, inconsistent condom use, easy access to commercial sex workers. Apart from high-risk sexual behavior, there were others factors that shaped a man's risky sexual practices including difficult working and

housing conditions, limited access to health system, language barriers and lack of legal status.[114] Prior studies in India also indicated potential role of migration in spread of HIV infection in this country particularly in rural areas.[115, 116] Yet most of these migrant men did not use condoms during sex with their wives or sexual partners putting them at risk for HIV.[117] Unfortunately, the HIV risk of the married women of reproductive age are usually increased by their husband's risky sexual behaviors. Thus, proper care support should be ensured so that these vulnerable women have improved self-perception of elevated risk, learn about HIV prevention and negotiating skills for safe sex with their partners.

As reported elsewhere,[118] a positive association was observed between self-perceived HIV risk and higher odds of being infected. Contrary to our study, another study in Zambia found no association between self-perceived HIV risk and actual HIV status.[119] Studies showed that those who perceived themselves to be at lower risk were often engaged in high risk behaviors.[120] Previous research revealed that adolescent women underestimated their susceptibility to STIs despite their clear risk.[121] As all routine HIV testing in public health clinics are based on opt-out policy in India, there always remains a chance that the attendance in STI clinic be affected by the self-perceived HIV risk and associated stigma. The scenario is different for ANT attendees. They undergo for routine HIV, syphilis and Hepatitis B testing as part of their pregnancy check up. Thus no stigma is perceived by undergoing these tests and participation is mostly complete due to the emotional drive and concern regarding the well-being of the baby in utero and self. Hence addressing these women is much easier and compliance and participation are very likely to be high. Also the delivery of knowledge and access to improve their perception, attitude and practice may be easier during ANC visits and facilitated by the compliance to all the advices provided there.Thus, apart from testing, raising awareness and educating women regarding HIV

and other STIs may be easier and more likely to modify their own risk perception and subsequent changes in high risk behavior if addressed during the ANC visits.

Consistent with previous studies,[122-124] risk of HIV increased among participants who had a prior history for syphilis. In addition, participants who reported genital lesions suggestive of genital ulcers and groin swelling had higher odds of being HIV positive in the current analysis. Epidemiologic studies indicated that genital lesions particularly ulcers associated with syphilis increased the risk of HIV acquisition.[123] Co-infection with syphilis among HIV-positive persons are associated with an increasing viral load and declining CD4 counts. On acquisition of HIV among individuals infected with syphilis increased the risk of neurological complications and alter the natural course of syphilis.[122, 123]. Although uptake of syphilis and HIV testing is fairly common among ANC attendees, but testing among male sexual partner is low. Given syphilis is completely curable and treatable, periodic screening of STIs of at-risk populations and promoting involvement of male partners in routine ANC checkups are strongly recommended.

LIMITATIONS

The findings may have limited generalizability as participants attending a tertiary care center do not represent all pregnant women in the city particularly those with higher socio-economic status and reported to private health care. The potential for under-estimation of burden of STIs (syphilis and hepatitis B) should be kept in mind as we might have missed some pregnant women with STI who sought care from private health care sector. As most of the information related to sexual health were self-reported, the accuracy of responses could not be validated, making these data subject to social desirability and recall bias. Social desirability bias had an impact on the findings

of previous studies as information on sensitive behavioral questions particularly sexual behavior which were likely to be under-reported in face-to-face-interviews.[125] But we believe that use of C-ACASI technique with ear phones enhanced participants' trust in confidentiality of the information and chances of social desirability bias appeared to be less. In addition, to minimize the potential for recall bias, the recall period was limited to 6 months. The design being cross-sectional causal interpretation of study findings should be borne in mind. Further, because of use of C-ACASI there was limited probing which respondents might have required to understand and respond accurately to some sensitive questions. But we believe the potential for such information bias would be small as all pre-recorded questions were simple, asked in a language that they completely understood, validated during the pilot phase and each question could be replayed if respondent did not understand for the first time. In addition, there was an option to ask the interviewer if they faced any problem with any question during the period of the interview. In addition, owing to small number of pregnant women being positive for HIV and hepatitis B, many associations became statistically non-significant due to lack of statistical power.

STRENGTHS AND PUBLIC HEALTH IMPLICATIONS

Despite these limitations we believe this study by virtue of large sample size, good (1670/1760 or 94.89%) response rate, unique data collection procedure [C-ACASI] and robust statistical analysis has generated useful insights into sexual health of pregnant women of West Bengal and add to a sparse body of literature on the burden and risk factors for STI acquisition in this state.

The current findings emphasized to many possible areas for further intervention under STD control programs in India. Data from this study suggest that there are considerable gaps between

current level of STI related knowledge and practice among Indian pregnant women. It was found that mothers with relatively good knowledge regarding STIs practiced high-risk behaviors indicating that their knowledge did not translate into intended practice. Another notable implication from this study is that discriminatory attitudes of mothers against HIV/AIDS. Mothers having better overall and domain-specific knowledge regarding STI including HIV did not increase the odds of reporting positive attitude towards HIV. Therefore, findings can be considered as a primary document by policy makers to supervise and monitor whether pregnant women are receiving quality meaningful information on sexual health and HIV at designated ICTC and whether they are able to understand such information and are able to translate new knowledge into practice. Given knowledge and attitudes are intrinsically linked, concerted public health efforts are needed to improve knowledge and perception of Indian mothers so that if ever detected positive they do not hesitate to access support, care and treatment. Most participants appeared comfortable with the idea of interviewing through C-ACASI on sexual health because of enhanced privacy and confidentiality. This suggests that use of this technology as a data collection tool on sensitive issues during routine antenatal check-ups is feasible and acceptable.

This study provides further evidence to support the fact about the reality of sexual abuse in marital relationship which is not explicitly acknowledged. A significant proportion of wives are sexually abused by their husbands in this metropolitan city of Kolkata. Furthermore, mothers who self-reported being abused by their husbands were more likely to engage in high risk behaviors. Given marriage is a social construct and social change takes time to occur strong political commitments, legal reforms and appropriate counseling of abusive husbands will be needed to reduce destructive behaviors among sexual partners as well high risk behaviors of women.

CONCLUSIONS

The burden of HIV and Hepatitis B infection was observed to be high among pregnant women attending ANC clinics in Kolkata, West Bengal during 2016. The high proportion of participants who tested positive for HIV or hepatitis B in this study further stresses the importance of promotion of health seeking behavior should not only be directed at those with symptoms but also at those without such symptoms. This study showed that having extra-spousal relationship and past history of self-reported symptoms of yellow discoloration of urine/skin were risk factors for hepatitis B acquisition. The significant predictors of HIV infection were higher age, poor education, higher parity, alcohol consumption by husbands before sex, past history of blood transfusion/syphilis/genital ulcer or swelling and higher self-perceived HIV risk. A large percentage of women were worried about acquisition of STIs including HIV infection. Overall STI related knowledge and attitude toward HIV/AIDS appeared to be poor. Thus, routine screening of pregnant women for common STIs should be prioritized to contain the spread of and minimize the adverse effects of STIs. One of the most notable findings of the current study is that a large number of married pregnant women were engaged in high-risk sexual behavior in Kolkata. The present analysis also revealed significant gaps were observed between participants' STI related knowledge and sexual practice. Intimate partner violence including forced sex was also observed to be high in the current study. The present study also highlights the need to re-consider and re-orient the counseling regarding risk behavior from individual perspective to couples' joint responsibilities so that concurrent counseling/treatment of sexual partners receive priority. Emphasis should be placed on proper counseling of pregnant women and their sexual partners regarding safe sex. Proper management of STIs during pregnancy needs multifaceted approach which includes quality epidemiological data, good evidence of effectiveness of

ongoing interventions, increase accessibility to reproductive health care services, stronger advocacy and commitment to get them implemented. Moreover, additional pre-requisites are health care infra-structure, ensuring confidentiality, health care providers' knowledge of recommended STI screening, attitudes towards screening and management and ability to assess person's risk for STI acquisition. Given antenatal care clinics are the most common settings for STI screening during pregnancy, care should be taken that health care providers provide equal attention to both symptomatic and asymptomatic cases so that the most serious STI-related sequelae can be reduced.

APPENDIX

Table 1.a. Distribution of the socio-demographic factors among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Continuous variables			Mean	95%CL	
				Lower	Upper
What is your present age?			22.37	22.18	22.55
Per head family income (INR)			2597.78	2466.65	2728.91
At what age did you get married?			18.53	18.38	18.67
What is your husband's age? Age in completed years			28.39	28.13	28.65
Categorical variables	**Categories**	**N**	**%**	**95%CL**	
				Lower	**Upper**
Till what level have you studied?	No education	90	5.39	4.31	6.47
	Primary	143	8.56	7.22	9.91
	High-school	1298	77.72	75.73	79.72
	Graduation and above	139	8.32	7.00	9.65
What is your religion?	Hindu	789	47.30	44.90	49.70
	Muslim	879	52.70	50.30	55.10
What is your occupation?	Currently not working	1601	95.87	94.91	96.82
	Currently working	69	4.13	3.18	5.09
What is your husband's occupation?	Unskilled Worker	180	10.82	9.33	12.32
	Skilled Worker	785	47.20	44.80	49.61
	Business	399	23.99	21.94	26.05
	Service	188	11.30	9.78	12.83
	Self-employed /Professional	111	6.67	5.47	7.88
What is your husband's education?	No education	173	10.36	8.90	11.82
	Primary	307	18.38	16.52	20.24
	High-school	1031	61.74	59.40	64.07
	Graduation and above	159	9.52	8.11	10.93
Due to your husband's work, does he need to stay away from you/family at a stretch for 6 months or more?	Most of the time	51	3.05	2.23	3.88
	Sometimes	80	4.79	3.77	5.82
	Few times	47	2.81	2.02	3.61
	Never	1492	89.34	87.86	90.82
Where do you live?	Urban	684	40.96	38.60	43.32
	Rural	986	59.04	56.68	61.40

Table 1.b. Distribution of the socio-demographic factors among recruited antenatal care attendees who were interviewed by an interviewer (N=176), Kolkata, West Bengal, India, 2016

Continuous variables	Mean	95%CL	
		Lower	Upper
What is your present age?	21.91	21.29	22.54
Per head family income (INR)	2647.66	2184.44	3110.88
At what age did you get married?	18.72	18.27	19.16
What is your husband's age? Age in completed years	27.77	27.01	28.53

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
Till what level have you studied?	No education	3	1.70	0.00	3.64
	Primary	13	7.39	3.48	11.29
	High-school	142	80.68	74.79	86.57
	Graduation and above	18	10.23	5.71	14.75
What is your religion?	Hindu	75	42.61	35.24	49.99
	Muslim	101	57.39	50.01	64.76
What is your occupation?	Currently not working	169	96.02	93.11	98.94
	Currently working	7	3.98	1.06	6.89
What is your husband's occupation?	Unskilled worker	27	15.34	9.96	20.72
	Skilled worker	87	49.43	41.97	56.89
	Business	26	14.77	9.48	20.07
	Service	36	20.45	14.44	26.47
What is your husband's education?	No education	14	7.95	3.92	11.99
	Primary	37	21.02	14.94	27.10
	High-school	107	60.80	53.51	68.08
	Graduation and above	18	10.23	5.71	14.75
Due to your husband's work, does he need to stay away from you/family at a stretch for 6 months or more?	Most of the time	9	5.11	1.83	8.40
	Sometimes	4	2.27	0.05	4.50
	Few times	5	2.84	0.36	5.32
	Never	158	89.77	85.25	94.29
Where do you live?	Urban	67	38.07	30.82	45.31
	Rural	109	61.93	54.69	69.18

Table 1.c. Distribution of the obstetric history among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Continuous variables			Mean	95% CL	
				Lower	Upper
Till now how many babies have you given birth to?			0.48	0.45	0.51
How many years ago was your last child born?			2.18	2.03	2.33
How many male children do you have?			0.20	0.18	0.22
Categorical variables	**Categories**	**N**	**%**	**95%CL**	
				Lower	**Upper**
Including this time, how many times have you become a mother?	1st time	909	54.43	52.04	56.82
	2nd time	530	31.74	29.50	33.97
	3rd time	169	10.12	8.67	11.57
	4 or more	62	3.71	2.80	4.62
In the past, have you ever had an abortion or miscarriage?	No	1302	77.96	75.97	79.95
	Yes	368	22.04	20.05	24.03
Were any of your babies born prior to their due date?	No	1470	88.02	86.47	89.58
	Yes	200	11.98	10.42	13.53
Have you ever given birth to a stillborn child?	No	1628	97.49	96.73	98.24
	Yes	42	2.52	1.76	3.27

Table 1.d. Distribution of the obstetric history among recruited antenatal care attendees who were interviewed by an interviewer (N=176), Kolkata, West Bengal, India, 2016

Continuous variables			Mean	95%CL	
				Lower	Upper
Till now how many babies have you given birth to?			0.33	0.24	0.41
How many years ago was your last child born?			1.66	1.18	2.14
How many male children do you have?			0.15	0.10	0.21
Categorical variables	**Categories**	**N**	**%**	**95%CL**	
				Lower	**Upper**
Including this time, how many times have you become a mother?	1st time	120	68.18	61.23	75.13
	2nd time	42	23.86	17.50	30.22
	3rd time	9	5.11	1.83	8.40
	4 or more	5	2.84	0.36	5.32
In the past, have you ever had an abortion or miscarriage?	No	147	83.52	77.99	89.06
	Yes	29	16.48	10.94	22.01
Were any of your babies born prior to their due date?	No	167	94.89	91.60	98.17
	Yes	9	5.11	1.83	8.40
Have you ever given birth to a stillborn child?	No	171	97.16	94.68	99.64
	Yes	5	2.84	0.36	5.32

Table 2.a. Distribution of the knowledge regarding sexually transmitted infections (other than HIV), their symptoms and acquisition among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Statements/variables	Response categories	N	%	95% CL	
				Lower	Lower
Do you feel that certain diseases can be transmitted from one person to another through sexual relationship	Incorrect	400	23.95	21.90	26.00
	Correct	1270	76.05	74.00	78.10
If a woman has a sexually transmitted disease, then she may have foul smelling discharge from her urinary tract.	Incorrect	967	57.90	55.53	60.27
	Correct	703	42.10	39.73	44.47
If a woman has a sexually transmitted disease, then she may feel pain or burning sensation during micturition	Incorrect	958	57.37	54.99	59.74
	Correct	712	42.63	40.26	45.01
If a woman has a sexually transmitted disease, she may have an ulcer in her private parts	Incorrect	1092	65.39	63.11	67.67
	Correct	578	34.61	32.33	36.89
If a woman has a sexually transmitted disease, she may have an itching sensation in her private parts.	Incorrect	962	57.60	55.23	59.98
	Correct	708	42.40	40.02	44.77
If a woman has a sexually transmitted disease, she may have a pain in her lower abdomen/back.	Incorrect	909	54.43	52.04	56.82
	Correct	761	45.57	43.18	47.96
If a woman has a sexually transmitted disease, she may have swelling of her groin.	Incorrect	1279	76.59	74.55	78.62
	Correct	391	23.41	21.38	25.45

Table 2.b. Distribution of the knowledge regarding HIV, its symptoms and acquisition among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Statements/variables	Response categories	N	%	95% CL	
				Lower	Lower
If one is HIV positive, still the person may look like any other normal healthy person.	Incorrect	1419	84.97	83.25	86.69
	Correct	251	15.03	13.31	16.75
If a person has a sexually transmitted disease the probability of his/her acquiring HIV increases.	Incorrect	1309	78.38	76.41	80.36
	Correct	361	21.62	19.64	23.59
HIV/AIDs can be cured with proper treatment	Incorrect	1182	70.78	68.60	72.96
	Correct	488	29.22	27.04	31.41
HIV/AIDS can be prevented.	Incorrect	1050	62.87	60.55	65.19
	Correct	620	37.13	34.81	39.45
An HIV/AIDS patient who looks apparently healthy cannot transmit the disease to anyone else.	Incorrect	1357	81.26	79.38	83.13
	Correct	313	18.74	16.87	20.62
Only when one has sex with a female sex worker can one acquire HIV/AIDS.	Incorrect	1460	87.43	85.83	89.02
	Correct	210	12.57	10.98	14.17
If one uses condom during sex, the likelihood of acquiring infectious diseases such as HIV/AIDS reduces?	Incorrect	1252	74.97	72.89	77.05
	Correct	418	25.03	22.95	27.11
If the same needle is used to inject more than one person, that is not likely to cause the transmission of HIV/AIDs	Incorrect	1379	82.57	80.75	84.40
	Correct	291	17.43	15.60	19.25
If a mosquito that has bitten an HIV infected person bites someone else, then that person is likely to acquire HIV?	Incorrect	1026	61.44	59.10	63.77
	Correct	644	38.56	36.23	40.90
If you share food with a HIV infected person you may acquire HIV/AIDs?	Incorrect	1286	77.01	74.99	79.03
	Correct	384	22.99	20.97	25.01
HIV/AIDS does not get transmitted by a lactating mother to the child through breast feeding	Incorrect	918	54.97	52.58	57.36
	Correct	752	45.03	42.64	47.42

Table 2.c. Distribution of the knowledge regarding complications of STI among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Statements/variables	Response categories	N	%	95% CL	
				Lower	Lower
Sexually transmitted diseases are typically not apparent from the outside	Incorrect	1094	65.51	63.23	67.79
	Correct	576	34.49	32.21	36.77
Sexually transmitted diseases can cause cancer.	Incorrect	1230	73.65	71.54	75.77
	Correct	440	26.35	24.23	28.46
Having a sexually transmitted disease may be the reason for not being able to conceive.	Incorrect	1257	75.27	73.20	77.34
	Correct	413	24.73	22.66	26.80
Having a sexually transmitted disease during pregnancy may lead to complications such as miscarriage/ premature birth of the baby	Incorrect	1158	69.34	67.13	71.56
	Correct	512	30.66	28.45	32.87
Having a sexually transmitted disease can cause complications to the unborn child.	Incorrect	881	52.75	50.36	55.15
	Correct	789	47.25	44.85	49.64
If one has a sexually transmitted disease, then her husband/male partner should also be properly treated	Incorrect	793	47.49	45.09	49.88
	Correct	877	52.52	50.12	54.91

Table 2.d. Distribution of overall knowledge regarding STI including HIV among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Statements/variables	Response categories	N	%	95% CL	
				Lower	Upper
Knowledge among respondents regarding symptoms of sexually transmitted infections including HIV	Poor	292	17.49	15.66	19.31
	Average	768	45.99	43.60	48.38
	Good	610	36.53	34.22	38.84
Knowledge among respondents regarding transmission of sexually transmitted infections including HIV	Poor	484	28.98	26.80	31.16
	Average	381	22.81	20.80	24.83
	Good	805	48.20	45.80	50.60
Knowledge among respondents regarding complications of sexually transmitted infections including HIV	Poor	679	40.66	38.30	43.02
	Average	364	21.80	19.81	23.78
	Good	627	37.54	35.22	39.87
Overall knowledge among respondents regarding sexually transmitted infections including HIV	Poor	439	26.29	24.17	28.40
	Average	714	42.75	40.38	45.13
	Good	517	30.96	28.74	33.18

Table 2.e. Association between socio-demographic factors and knowledge regarding symptoms of sexually transmitted infections including HIV among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	Knowledge regarding STI symptoms (ref=Poor)			
			Average		Good	
			OR (95%CI)	p value	OR (95%CI)	p value
Age of the participant in completed years		Unadj	**0.96(0.93-0.99)**	**0.0312**	1.02(0.98-1.05)	0.3942
		Adj	0.95(0.90-1.01)	0.0801	0.99(0.93-1.05)	0.6266
Age at marriage		Unadj	0.98(0.93-1.03)	0.3750	1.04(0.99-1.09)	0.1031
		Adj	1.00(0.95-1.06)	0.9119	0.99(0.94-1.05)	0.7652
Husband's age		Unadj	0.99(0.96-1.01)	0.2430	1.01(0.99-1.04)	0.3733
		Adj	1.02(0.98-1.06)	0.3308	1.02(0.98-1.06)	0.2834
Per capita family income		Unadj	1.02(0.99-1.01)	0.0981	**1.03(1.02-1.04)**	**0.0140**
		Adj	1.02(0.99-1.05)	0.1733	1.02(0.98-1.06)	0.1896
Variable description	**Category**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion? (ref=Hindu)	Muslim	Unadj	1.21(0.93-1.59)	0.1617	0.98(0.74-1.29)	0.8836
		Adj	1.29(0.94-1.77)	0.1160	1.26(0.91-1.76)	0.1691
Educational level (ref=No education)	Primary	Unadj	1.08(0.55-2.13)	0.8291	1.39(0.67-2.90)	0.3766
		Adj	1.09(0.54-2.20)	0.8122	1.50(0.71-3.18)	0.2863
	High-school	Unadj	1.34(0.78-2.31)	0.2904	1.59(0.88-2.90)	0.1254
		Adj	1.46(0.82-2.62)	0.1999	**1.88(1.00-3.54)**	**0.0498**
	≥Graduation	Unadj	1.24(0.56-2.73)	0.5996	**4.63(2.09-10.24)**	**0.0002**
		Adj	1.52(0.65-3.59)	0.3365	**4.85(2.04-11.51)**	**0.0003**
Husband's educational level (ref=No education)	Primary	Unadj	1.27(0.77-2.10)	0.3548	1.07(0.64-1.81)	0.7957
		Adj	1.33(0.79-2.27)	0.2853	1.04(0.60-1.80)	0.8790
	High-school	Unadj	1.31(0.85-2.02)	0.2182	1.07(0.69-1.68)	0.7609
		Adj	1.40(0.87-2.25)	0.1659	0.94(0.58-1.53)	0.8098
	Graduation and above	Unadj	1.59(0.79-3.21)	0.1960	**3.62(1.83-7.15)**	**0.0002**
		Adj	1.83(0.84-3.96)	0.1272	**2.44(1.14-5.21)**	**0.0216**
Currently working?	Yes (ref=No)	Unadj	1.69(0.63-4.51)	0.2928	**4.24(1.66-10.84)**	**0.0025**
		Adj	1.82(0.67-4.94)	0.2389	**3.47(1.33-9.08)**	**0.0112**
Husband's occupation (ref=Unskilled worker)	Skilled worker	Unadj	**0.59(0.36-0.95)**	**0.0301**	0.84(0.50-1.41)	0.5125
		Adj	**0.55(0.33-0.90)**	**0.0180**	0.72(0.42-1.23)	0.2330
	Business	Unadj	0.60(0.36-1.01)	0.0553	0.92(0.53-1.61)	0.7703
		Adj	**0.54(0.31-0.94)**	**0.0277**	0.69(0.39-1.24)	0.2185
	Service	Unadj	**0.49(0.27-0.91)**	**0.0247**	1.32(0.70-2.48)	0.3898
		Adj	**0.45(0.23-0.86)**	**0.0156**	0.82(0.42-1.61)	0.5670
	Self – employed /Professional	Unadj	0.64(0.32-1.25)	0.1904	0.82(0.40-1.70)	0.5973
		Adj	0.59(0.29-1.19)	0.1428	0.76(0.36-1.60)	0.4663
How often husband needs to stay away from you/family at a stretch for 6 months or more? (ref=most of the time)	Sometimes	Unadj	0.54(0.17-1.74)	0.3020	0.89(0.27-2.92)	0.8412
		Adj	0.64(0.19-2.13)	0.4678	1.02(0.30-3.49)	0.9720
	Few times	Unadj	0.39(0.11-1.35)	0.1379	0.56(0.16-1.97)	0.3624
		Adj	0.41(0.12-1.45)	0.1675	0.48(0.13-1.77)	0.2727
	Never	Unadj	0.48(0.18-1.26)	0.1343	0.53(0.19-1.43)	0.2079
		Adj	0.53(0.20-1.42)	0.2068	0.55(0.20-1.51)	0.2427
Residential area (ref=Urban)	Rural	Unadj	0.99(0.75-1.30)	0.9248	0.76(0.57-1.01)	0.0565
		Adj	0.84(0.61-1.16)	0.2805	**0.71(0.51-0.99)**	**0.0412**

Table 2.f. Association between socio-demographic factors and knowledge regarding transmission of sexually transmitted infections including HIV among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables			Knowledge regarding STI transmission (ref=Poor)			
			Average		Good	
Continuous		**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.01(0.98-1.05)	0.5148	**1.04(1.01-1.07)**	**0.0071**
		Adj	1.03(0.98-1.10)	0.2444	**1.06(1.01-1.12)**	**0.0115**
Age at marriage		Unadj	1.02(0.97-1.06)	0.4941	1.02(0.98-1.06)	0.3452
		Adj	1.00(0.95-1.06)	0.9057	0.99(0.94-1.04)	0.6399
Husband's age		Unadj	1.00(0.97-1.02)	0.8028	1.01(0.99-1.03)	0.2418
		Adj	0.99(0.95-1.02)	0.4471	1.00(0.97-1.03)	0.9186
Per capita family income		Unadj	1.01(0.99-1.03)	0.0511	1.00(0.99-1.01)	0.1176
		Adj	1.02(0.99-1.05)	0.0684	1.01(0.99-1.03)	0.0763
Categorical variable	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion? (ref=Hindu)	Muslim	Unadj	1.08(0.83-1.42)	0.5551	**1.39(1.11-1.75)**	**0.0040**
		Adj	0.96(0.70-1.31)	0.7820	1.31(1.00-1.71)	0.0514
Educational level (ref=No education)	Primary	Unadj	1.79(0.86-3.73)	0.1196	**1.96(1.08-3.57)**	**0.0281**
		Adj	1.65(0.78-3.49)	0.1878	**1.93(1.03-3.60)**	**0.0401**
	High-school	Unadj	**1.82(1.01-3.29)**	**0.0462**	**1.92(1.19-3.10)**	**0.0072**
		Adj	1.66(0.89-3.10)	0.1103	**2.02(1.21-3.39)**	**0.0076**
	≥Graduation	Unadj	**2.68(1.26-5.66)**	**0.0101**	**2.83(1.51-5.29)**	**0.0011**
		Adj	2.22(0.98-5.04)	0.0557	**2.67(1.33-5.34)**	**0.0057**
Husband's educational level (ref=No education)	Primary	Unadj	1.48(0.85-2.59)	0.1698	1.14(0.74-1.73)	0.5553
		Adj	1.31(0.73-2.34)	0.3670	1.10(0.70-1.72)	0.6849
	High-school	Unadj	**1.82(1.12-2.96)**	**0.0157**	1.03(0.72-1.48)	0.8632
		Adj	**1.75(1.04-2.94)**	**0.0364**	1.10(0.73-1.65)	0.6449
	Graduation and above	Unadj	**2.27(1.18-4.38)**	**0.0138**	**1.73(1.03-2.89)**	**0.0382**
		Adj	**2.18(1.04-4.54)**	**0.0378**	1.77(0.97-3.22)	0.0620
Currently working?	Yes (ref=No)	Unadj	1.54(0.66-3.61)	0.3185	**2.94(1.47-5.87)**	**0.0023**
		Adj	1.20(0.49-2.94)	0.6855	**2.23(1.09-4.56)**	**0.0280**
Husband's occupation (ref=Unskilled worker)	Skilled worker	Unadj	1.01(0.65-1.58)	0.9563	1.18(0.81-1.73)	0.3867
		Adj	0.96(0.61-1.51)	0.8543	1.11(0.75-1.65)	0.6127
	Business	Unadj	1.03(0.64-1.67)	0.8959	1.12(0.74-1.69)	0.6031
		Adj	0.93(0.56-1.54)	0.7763	1.02(0.65-1.58)	0.9419
	Service	Unadj	0.90(0.52-1.57)	0.7144	0.92(0.57-1.49)	0.7445
		Adj	0.81(0.45-1.48)	0.4919	0.86(0.51-1.45)	0.5697
	Selfemployed /Professional	Unadj	0.71(0.35-1.45)	0.3457	1.45(0.83-2.52)	0.1889
		Adj	0.76(0.37-1.60)	0.4730	1.54(0.86-2.76)	0.1487
How often husband needs to stay away from you/family at a stretch for 6 months or more? (ref=most of the time)	Sometimes	Unadj	**2.97(1.03-8.60)**	**0.0445**	0.97(0.43-2.22)	0.9452
		Adj	**2.97(1.01-8.69)**	**0.0476**	1.09(0.46-2.57)	0.8455
	Few times	Unadj	2.74(0.81-9.31)	0.1056	1.43(0.55-3.72)	0.4649
		Adj	2.73(0.79-9.36)	0.1110	1.36(0.50-3.67)	0.5449
	Never	Unadj	1.75(0.71-4.31)	0.2211	0.94(0.50-1.75)	0.8377
		Adj	1.71(0.69-4.25)	0.2468	0.99(0.51-1.91)	0.9743
Residential area (ref=Urban)	Rural	Unadj	**1.33(1.01-1.74)**	**0.0411**	**1.48(1.17-1.85)**	**0.0008**
		Adj	1.35(0.99-1.85)	0.0616	**1.34(1.03-1.75)**	**0.0306**

Table 2.g. Association between socio-demographic factors and knowledge regarding complications of sexually transmitted infections including HIV among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables			Knowledge regarding complications of STI (ref=Poor)			
			Average		Good	
Continuous		**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	**0.96(0.93-0.99)**	**0.0222**	0.99(0.96-1.02)	0.5103
		Adj	0.97(0.91-1.02)	0.2174	1.03(0.98-1.07)	0.2724
Age at marriage		Unadj	0.96(0.92-1.01)	0.1000	**0.95(0.92-0.99)**	**0.0079**
		Adj	0.95(0.90-1.01)	0.0919	0.96(0.92-1.01)	0.1161
Husband's age		Unadj	0.98(0.96-1.01)	0.1627	0.98(0.96-1.00)	0.0905
		Adj	1.01(0.98-1.05)	0.5075	0.99(0.96-1.02)	0.5794
Per capita family income		Unadj	**1.02(1.01-1.03)**	**0.0278**	1.00(0.99-1.01)	0.8579
		Adj	1.01(1.00-1.02)	0.0564	1.00(1.00-1.01)	0.3046
Categorical variable	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion? (ref=Hindu)	Muslim	Unadj	1.21(0.94-1.56)	0.1406	**1.78(1.43-2.22)**	**<.0001**
		Adj	1.17(0.86-1.58)	0.3115	**1.51(1.17-1.96)**	**0.0018**
Educational level (ref=No education)	Primary	Unadj	1.17(0.52-2.66)	0.6993	1.44(0.81-2.55)	0.2139
		Adj	1.14(0.49-2.66)	0.7619	1.29(0.71-2.35)	0.3958
	High-school	Unadj	**2.16(1.13-4.14)**	**0.0205**	1.34(0.84-2.14)	0.2193
		Adj	**2.13(1.06-4.29)**	**0.0348**	1.27(0.77-2.10)	0.3463
	≥Graduation	Unadj	**3.01(1.41-6.42)**	**0.0044**	1.35(0.74-2.46)	0.3227
		Adj	**3.31(1.42-7.71)**	**0.0055**	1.57(0.81-3.07)	0.1843
Husband's educational level (ref=No education)	Primary	Unadj	1.05(0.61-1.80)	0.8613	0.83(0.55-1.26)	0.3843
		Adj	0.83(0.47-1.46)	0.5168	0.78(0.50-1.21)	0.2609
	High-school	Unadj	1.26(0.79-2.01)	0.3331	**0.68(0.48-0.97)**	**0.0343**
		Adj	1.00(0.60-1.65)	0.9884	0.74(0.50-1.10)	0.1388
	Graduation and above	Unadj	1.12(0.61-2.05)	0.7125	0.69(0.43-1.12)	0.1347
		Adj	0.82(0.41-1.64)	0.5824	0.86(0.49-1.51)	0.6025
Currently working? (ref=No)	Yes	Unadj	**2.03(1.03-3.98)**	**0.0405**	**2.23(1.23-4.04)**	**0.0079**
		Adj	1.93(0.94-3.96)	0.0726	**2.06(1.10-3.84)**	**0.0233**
Husband's occupation (ref=Unskilled worker)	Skilled worker	Unadj	1.04(0.66-1.63)	0.8651	0.83(0.58-1.19)	0.3103
		Adj	0.90(0.57-1.44)	0.6674	0.79(0.54-1.15)	0.2178
	Business	Unadj	1.11(0.68-1.80)	0.6735	0.83(0.56-1.23)	0.3440
		Adj	0.88(0.53-1.47)	0.6382	0.84(0.55-1.28)	0.4151
	Service	Unadj	1.00(0.58-1.70)	0.9938	**0.41(0.25-0.67)**	**0.0003**
		Adj	0.78(0.43-1.39)	0.3982	**0.46(0.27-0.77)**	**0.0034**
	Self-employed /Professional	Unadj	0.77(0.39-1.52)	0.4434	0.92(0.54-1.54)	0.7423
		Adj	0.63(0.31-1.28)	0.2029	0.94(0.54-1.62)	0.8243
How often husband needs to stay away from you/family at a stretch for 6 months or more? (ref=most of the time)	Sometimes	Unadj	1.48(0.57-3.85)	0.4164	0.79(0.36-1.74)	0.5561
		Adj	1.45(0.55-3.82)	0.4536	0.87(0.38-2.01)	0.7473
	Few times	Unadj	2.49(0.87-7.12)	0.0892	1.07(0.42-2.70)	0.8916
		Adj	2.31(0.78-6.78)	0.1288	1.12(0.42-2.98)	0.8236
	Never	Unadj	1.22(0.55-2.69)	0.6281	0.92(0.50-1.71)	0.8029
		Adj	1.19(0.53-2.67)	0.6648	1.02(0.53-1.97)	0.9511
Residential area (ref=Urban)	Rural	Unadj	1.17(0.91-1.52)	0.2212	**1.69(1.35-2.12)**	**<.0001**
		Adj	1.03(0.76-1.38)	0.8654	1.28(0.99-1.66)	0.0634

Table 2.h. Association between socio-demographic factors and overall knowledge regarding sexually transmitted infections including HIV among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables			Overall knowledge regarding STI including HIV (ref=Poor)			
			Average		Good	
Continuous		**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.01(0.98-1.04)	0.5218	**1.04(1.00-1.07)**	**0.0364**
		Adj	1.00(0.95-1.05)	0.9600	1.04(0.99-1.10)	0.1384
Age at marriage		Unadj	1.00(0.96-1.04)	0.9897	1.03(0.99-1.07)	0.2043
		Adj	0.97(0.92-1.02)	0.2198	0.98(0.93-1.04)	0.4815
Husband's age		Unadj	1.01(0.99-1.03)	0.3274	1.01(0.99-1.04)	0.3270
		Adj	1.02(0.99-1.06)	0.1993	1.00(0.97-1.04)	0.8159
Per capita family income		Unadj	1.00(1.00-1.01)	0.2968	1.00(0.99-1.01)	0.0516
		Adj	1.00(0.99-1.01)	0.7308	1.02(0.99-1.05)	0.1658
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion? (ref=Hindu)	Muslim	Unadj	1.09(0.86-1.38)	0.4819	1.24(0.96-1.60)	0.0957
		Adj	1.19(0.90-1.57)	0.2261	1.26(0.93-1.71)	0.1372
Educational level (ref=No education)	Primary	Unadj	1.11(0.60-2.04)	0.7457	1.87(0.93-3.76)	0.0782
		Adj	1.11(0.59-2.09)	0.7378	1.93(0.93-3.99)	0.0761
	High-school	Unadj	1.50(0.92-2.44)	0.1009	**2.06(1.15-3.68)**	**0.0145**
		Adj	1.60(0.96-2.69)	0.0738	**2.26(1.21-4.22)**	**0.0105**
	≥Graduation	Unadj	**3.27(1.62-6.58)**	**0.0009**	**5.67(2.62-12.26)**	**<.0001**
		Adj	**3.65(1.71-7.78)**	**0.0008**	**5.50(2.36-12.81)**	**<.0001**
Husband's educational level (ref=No education)	Primary	Unadj	1.01(0.64-1.60)	0.9561	1.06(0.65-1.71)	0.8225
		Adj	0.95(0.58-1.53)	0.8185	0.95(0.57-1.59)	0.8539
	High-school	Unadj	1.09(0.74-1.62)	0.6621	0.97(0.64-1.48)	0.8917
		Adj	1.01(0.66-1.56)	0.9543	0.88(0.55-1.39)	0.5808
	Graduation and above	Unadj	**2.60(1.42-4.76)**	**0.0019**	**2.59(1.38-4.87)**	**0.0030**
		Adj	**2.11(1.08-4.12)**	**0.0298**	1.83(0.90-3.74)	0.0965
Currently working? (ref=No)	Yes	Unadj	**2.33(1.00-5.42)**	**0.0490**	**4.62(2.03-10.49)**	**0.0003**
		Adj	2.02(0.86-4.79)	0.1084	**3.40(1.46-7.91)**	**0.0046**
Husband's occupation (ref=Unskilled worker)	Skilled worker	Unadj	0.91(0.62-1.35)	0.6452	1.26(0.82-1.96)	0.2937
		Adj	0.84(0.56-1.25)	0.3888	1.14(0.73-1.80)	0.5655
	Business	Unadj	1.03(0.67-1.58)	0.9005	1.28(0.80-2.07)	0.3060
		Adj	0.87(0.55-1.36)	0.5313	1.07(0.65-1.78)	0.7904
	Service	Unadj	1.11(0.67-1.84)	0.6754	1.32(0.76-2.30)	0.3304
		Adj	0.90(0.52-1.53)	0.6868	0.98(0.54-1.80)	0.9525
	Self-employed /Professional	Unadj	1.03(0.58-1.85)	0.9139	1.33(0.70-2.51)	0.3804
		Adj	1.02(0.56-1.89)	0.9397	1.38(0.71-2.69)	0.3491
How often husband needs to stay away from you/family at a stretch for 6 months or more? (ref=most of the time)	Sometimes	Unadj	1.04(0.43-2.55)	0.9271	0.88(0.36-2.18)	0.7819
		Adj	1.13(0.45-2.81)	0.7987	0.99(0.38-2.53)	0.9759
	Few times	Unadj	1.14(0.42-3.12)	0.7978	0.86(0.30-2.41)	0.7675
		Adj	1.10(0.40-3.06)	0.8541	0.71(0.24-2.11)	0.5327
	Never	Unadj	1.12(0.55-2.29)	0.7575	0.79(0.39-1.63)	0.5288
		Adj	1.12(0.54-2.34)	0.7592	0.82(0.39-1.74)	0.6020
Residential area (ref=Urban)	Rural	Unadj	1.03(0.81-1.31)	0.7875	1.23(0.95-1.59)	0.1227
		Adj	0.92(0.70-1.22)	0.5816	1.12(0.83-1.52)	0.4590

Table 3.a. Distribution of the attitude towards HIV among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Statements/variables	Response categories	N	%	95% CL	
				Lower	Upper
To have HIV it is a crime and HIV patients should be punished.	Agree	659	39.46	37.11	41.81
	Somewhat disagree	304	18.20	16.35	20.06
	Strongly disagree	707	42.34	39.96	44.71
HIV patients should be ostracized/kept secluded.	Agree	575	34.43	32.15	36.71
	Somewhat disagree	437	26.17	24.06	28.28
	Strongly disagree	658	39.40	37.06	41.75
One feels uncomfortable with or does not want to be friends with an HIV patient	Agree	513	30.72	28.50	32.93
	Somewhat disagree	464	27.78	25.63	29.94
	Strongly disagree	693	41.50	39.13	43.86
One feels uncomfortable or does not want to work in the same office with an HIV patient.	Agree	502	30.06	27.86	32.26
	Somewhat disagree	475	28.44	26.28	30.61
	Strongly disagree	693	41.50	39.13	43.86
An HIV positive child should not be allowed admission in a school or should not be allowed to study in a school	Agree	481	28.80	26.63	30.98
	Somewhat disagree	486	29.10	26.92	31.28
	Strongly disagree	703	42.10	39.73	44.47
Overall attitude of the respondent towards HIV	Poor	647	38.74	36.40	41.08
	Average	510	30.54	28.33	32.75
	Good	513	30.72	28.50	32.93

Table 3.b. Association between socio-demographic factors and the attitude that HIV patients are sinner and should be punished among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	HIV patients are sinner and should be punished (ref=agree)			
			Somewhat disagree		Strongly disagree	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	0.99(0.96-1.03)	0.7644	**1.04(1.01-1.07)**	**0.0144**
		Adj	**0.91(0.85-0.96)**	**0.0010**	1.00(0.96-1.05)	0.9505
Age at marriage		Unadj	**1.06(1.01-1.11)**	**0.0214**	**1.08(1.04-1.12)**	**<.0001**
		Adj	1.03(0.97-1.09)	0.3575	1.03(0.98-1.08)	0.2468
Husband's age		Unadj	**1.03(1.01-1.06)**	**0.0151**	1.02(1.00-1.04)	0.0562
		Adj	**1.07(1.03-1.11)**	**0.0007**	1.00(0.97-1.03)	0.9453
Per capita family income		Unadj	**1.02(1.01-1.03)**	**0.0293**	**1.03(1.01-1.04)**	**0.0016**
		Adj	1.00(1.00-1.00)	0.4403	1.00(0.99-1.01)	0.0815
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**0.58(0.44-0.76)**	**<.0001**	**0.65(0.52-0.80)**	**<.0001**
		Adj	**0.65(0.47-0.90)**	**0.0088**	0.87(0.67-1.12)	0.2817
Educational level (ref=No education)	Primary	Unadj	0.93(0.39-2.23)	0.8628	1.04(0.59-1.83)	0.8885
		Adj	0.80(0.32-1.99)	0.6341	1.13(0.63-2.03)	0.6944
	High-school	Unadj	1.44(0.72-2.89)	0.3012	0.74(0.47-1.17)	0.1967
		Adj	1.29(0.62-2.67)	0.4971	0.79(0.48-1.29)	0.3483
	Graduation and above	Unadj	**3.98(1.68-9.44)**	**0.0017**	**2.82(1.49-5.31)**	**0.0014**
		Adj	**3.13(1.23-7.96)**	**0.0168**	**2.46(1.23-4.92)**	**0.0113**
Husband's educational level (ref=No education)	Primary	Unadj	0.60(0.35-1.04)	0.0676	0.90(0.60-1.35)	0.5996
		Adj	**0.55(0.31-0.98)**	**0.0438**	0.92(0.60-1.41)	0.6974
	High-school	Unadj	0.93(0.59-1.45)	0.7405	0.96(0.67-1.37)	0.8242
		Adj	0.67(0.41-1.12)	0.1261	0.87(0.58-1.28)	0.4719
	Graduation and above	Unadj	**2.46(1.34-4.52)**	**0.0037**	**2.10(1.26-3.51)**	**0.0047**
		Adj	1.53(0.76-3.07)	0.2364	1.39(0.77-2.51)	0.2719
Currently working?	Yes (ref=No)	Unadj	1.22(0.63-2.39)	0.5532	1.12(0.65-1.93)	0.6728
		Adj	1.36(0.67-2.76)	0.3991	0.78(0.43-1.43)	0.4258
Husband's occupation (ref=Unskilled worker)	Skilled worker	Unadj	0.85(0.54-1.34)	0.4893	1.10(0.77-1.57)	0.6111
		Adj	0.79(0.49-1.26)	0.3153	1.12(0.77-1.63)	0.5608
	Business	Unadj	1.18(0.73-1.93)	0.4964	1.33(0.90-1.97)	0.1595
		Adj	0.86(0.51-1.45)	0.5738	1.17(0.77-1.78)	0.4737
	Service	Unadj	1.54(0.88-2.69)	0.1336	1.52(0.95-2.41)	0.0779
		Adj	0.94(0.51-1.72)	0.8278	0.91(0.55-1.52)	0.7198
	Self-employed/ Professional	Unadj	0.62(0.31-1.24)	0.1771	0.78(0.46-1.31)	0.3485
		Adj	**0.48(0.24-1.00)**	**0.0487**	0.75(0.44-1.30)	0.3124
How often husband needs to stay away from you/family at a stretch for 6 months or more? (ref=most of the time)	Sometimes	Unadj	2.01(0.63-6.43)	0.2376	1.27(0.60-2.69)	0.5375
		Adj	2.02(0.61-6.62)	0.2484	1.44(0.65-3.18)	0.3666
	Few times	Unadj	**5.20(1.50-18.02)**	**0.0093**	2.00(0.80-4.97)	0.1358
		Adj	**5.33(1.49-19.11)**	**0.0101**	2.15(0.83-5.58)	0.1159
	Never	Unadj	2.21(0.84-5.86)	0.1099	1.16(0.64-2.08)	0.6309
		Adj	2.40(0.89-6.47)	0.0827	1.38(0.73-2.59)	0.3172
Residential area (ref=Urban)	Rural	Unadj	0.77(0.58-1.03)	0.0736	**0.54(0.43-0.67)**	**<.0001**
		Adj	0.99(0.71-1.38)	0.9543	**0.63(0.49-0.81)**	**0.0004**

Table 3.c. Association of general health perception and knowledge regarding STI/HIV with the attitude HIV that patients are sinner and should be punished, among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables			OR	HIV patients are sinner and should be punished (ref=agree)		
				Somewhat disagree		Strongly disagree
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Perceived general health (ref=Good)	Average	Unadj	1.25(0.94-1.67)	0.1247	1.17(0.93-1.46)	0.1881
		Adj	1.30(0.97-1.75)	0.0842	1.16(0.92-1.47)	0.2202
	Poor	Unadj	0.66(0.35-1.22)	0.1822	1.09(0.72-1.65)	0.6786
		Adj	0.69(0.36-1.33)	0.2642	1.14(0.74-1.76)	0.5519
Knowledge regarding STI symptoms (ref=Poor)	Average	Unadj	0.95(0.64-1.41)	0.7898	**0.65(0.48-0.87)**	**0.0041**
		Adj	0.91(0.60-1.37)	0.6467	**0.64(0.47-0.87)**	**0.0040**
	Good	Unadj	1.17(0.78-1.77)	0.4456	0.86(0.63-1.16)	0.3198
		Adj	1.03(0.67-1.59)	0.8831	0.74(0.54-1.02)	0.0674
Knowledge regarding STI transmission knowledge (ref=Poor)	Average	Unadj	0.92(0.63-1.33)	0.6517	0.77(0.56-1.04)	0.0916
		Adj	0.87(0.59-1.28)	0.4793	0.73(0.53-1.00)	0.0530
	Good	Unadj	**0.42(0.30-0.58)**	**<.0001**	**0.46(0.35-0.59)**	**<.0001**
		Adj	**0.41(0.29-0.58)**	**<.0001**	**0.44(0.34-0.58)**	**<.0001**
Knowledge regarding complications of STI (ref=Poor)	Average	Unadj	0.78(0.54-1.11)	0.1655	**0.71(0.53-0.96)**	**0.0235**
		Adj	0.73(0.51-1.06)	0.0997	**0.70(0.51-0.95)**	**0.0202**
	Good	Unadj	**0.28(0.21-0.39)**	**<.0001**	**0.32(0.25-0.41)**	**<.0001**
		Adj	**0.29(0.20-0.40)**	**<.0001**	**0.32(0.25-0.42)**	**<.0001**
Overall knowledge regarding STI including HIV (ref=Poor)	Average	Unadj	0.87(0.62-1.21)	0.4009	0.79(0.60-1.03)	0.0862
		Adj	0.78(0.55-1.11)	0.1661	**0.74(0.56-0.99)**	**0.0389**
	Good	Unadj	**0.41(0.28-0.60)**	**<.0001**	**0.44(0.33-0.58)**	**<.0001**
		Adj	**0.37(0.25-0.54)**	**<.0001**	**0.39(0.29-0.53)**	**<.0001**

Table 3.d. Association between socio-demographic factors and the attitude that HIV patients should be ostracized/discriminated, among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	HIV patients should be ostracized/discriminated (ref=agree)			
			Somewhat disagree		Strongly disagree	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.01(0.98-1.04)	0.6367	**1.05(1.02-1.08)**	**0.0009**
		Adj	**0.92(0.88-0.98)**	**0.0048**	1.03(0.98-1.09)	0.1888
Age at marriage		Unadj	**1.07(1.03-1.12)**	**0.0018**	**1.08(1.04-1.12)**	**0.0002**
		Adj	1.01(0.96-1.07)	0.6881	1.00(0.95-1.05)	0.8759
Husband's age		Unadj	**1.04(1.01-1.06)**	**0.0038**	**1.03(1.01-1.05)**	**0.0109**
		Adj	**1.05(1.02-1.09)**	**0.0041**	0.99(0.96-1.02)	0.5136
Per capita family income		Unadj	**1.02(1.01-1.03)**	**0.0259**	**1.02(1.01-1.03)**	**0.0051**
		Adj	1.00(0.99-1.01)	0.7171	1.01(0.99-1.03)	0.1536
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**0.44(0.34-0.56)**	**<.0001**	**0.45(0.36-0.56)**	**<.0001**
		Adj	**0.51(0.38-0.69)**	**<.0001**	**0.56(0.43-0.74)**	**<.0001**
Educational level (ref=No education)	Primary	Unadj	0.48(0.22-1.06)	0.0684	0.84(0.46-1.53)	0.5711
		Adj	0.50(0.23-1.12)	0.0916	0.93(0.50-1.74)	0.8217
	High-school	Unadj	0.97(0.53-1.75)	0.9123	0.64(0.39-1.04)	0.0732
		Adj	0.98(0.52-1.83)	0.9387	0.78(0.46-1.34)	0.3763
	Graduation and above	Unadj	**4.05(1.86-8.81)**	**0.0004**	**2.08(1.03-4.21)**	**0.0411**
		Adj	**3.57(1.53-8.28)**	**0.0031**	1.87(0.87-4.05)	0.1113
Husband's educational level (ref=No education)	Primary	Unadj	0.89(0.53-1.49)	0.6514	0.77(0.51-1.17)	0.2268
		Adj	0.92(0.53-1.60)	0.7710	0.82(0.53-1.28)	0.3770
	High-school	Unadj	**1.62(1.04-2.54)**	**0.0340**	1.00(0.70-1.44)	0.9917
		Adj	1.24(0.76-2.03)	0.3988	0.87(0.58-1.30)	0.5048
	Graduation and above	Unadj	**3.58(1.97-6.50)**	**<.0001**	**1.73(1.02-2.96)**	**0.0434**
		Adj	1.77(0.90-3.48)	0.1012	0.92(0.49-1.70)	0.7785
Currently working?	Yes (ref=No)	Unadj	1.14(0.61-2.14)	0.6769	1.12(0.63-1.98)	0.7032
		Adj	1.13(0.57-2.24)	0.7278	0.86(0.46-1.61)	0.6371
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.88(0.58-1.35)	0.5598	1.01(0.69-1.46)	0.9791
		Adj	0.80(0.51-1.24)	0.3203	1.03(0.70-1.53)	0.8783
	Business	Unadj	1.33(0.85-2.10)	0.2127	1.07(0.71-1.61)	0.7633
		Adj	0.88(0.54-1.44)	0.6169	0.91(0.59-1.42)	0.6796
	Service	Unadj	**2.30(1.31-4.03)**	**0.0036**	**2.40(1.45-4.00)**	**0.0007**
		Adj	1.18(0.64-2.18)	0.5867	1.54(0.89-2.68)	0.1253
	Self-employed /Professional	Unadj	1.07(0.59-1.93)	0.8309	0.76(0.44-1.33)	0.3368
		Adj	0.77(0.41-1.44)	0.4161	0.72(0.40-1.29)	0.2637
How often husband needs to stay away from you/family at a stretch for 6 months or more? (ref=most of the time)	sometimes	Unadj	2.07(0.78-5.54)	0.1454	**3.33(1.47-7.54)**	**0.0039**
		Adj	2.04(0.73-5.68)	0.1718	**3.63(1.53-8.61)**	**0.0035**
	Few times	Unadj	2.01(0.69-5.85)	0.1989	2.23(0.89-5.59)	0.0855
		Adj	1.99(0.65-6.06)	0.2260	2.13(0.80-5.68)	0.1329
	Never	Unadj	**2.47(1.15-5.28)**	**0.0204**	**2.31(1.20-4.44)**	**0.0118**
		Adj	**2.51(1.13-5.57)**	**0.0237**	**2.62(1.30-5.30)**	**0.0073**
Residential area (ref=Urban)	Rural	Unadj	**0.65(0.50-0.84)**	**0.0011**	**0.49(0.39-0.62)**	**<.0001**
		Adj	0.93(0.68-1.26)	0.6223	**0.71(0.54-0.93)**	**0.0137**

Table 3.e. Association of general health perception and knowledge regarding STI/HIV with the attitude that HIV patients should be ostracized/discriminated, among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables			OR	HIV patients should be ostracized/discriminated (ref=Agree)		
				Somewhat disagree	Strongly disagree	
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Perceived general health (ref=Good)	Average	Unadj	1.10(0.84-1.43)	0.4890	1.10(0.87-1.40)	0.4207
		Adj	1.19(0.90-1.57)	0.2240	1.14(0.89-1.47)	0.2982
	Poor	Unadj	0.72(0.42-1.23)	0.2275	1.21(0.79-1.86)	0.3894
		Adj	0.83(0.47-1.48)	0.5361	1.34(0.85-2.13)	0.2070
Knowledge regarding STI symptoms (ref=Poor)	Average	Unadj	0.91(0.63-1.31)	0.6047	**0.64(0.47-0.88)**	**0.0054**
		Adj	0.91(0.62-1.33)	0.6254	**0.65(0.46-0.90)**	**0.0090**
	Good	Unadj	1.02(0.70-1.48)	0.9319	**0.70(0.50-0.96)**	**0.0294**
		Adj	0.86(0.58-1.28)	0.4486	**0.59(0.42-0.84)**	**0.0029**
Knowledge regarding STI transmission knowledge (ref=Poor)	Average	Unadj	1.13(0.79-1.62)	0.5003	1.09(0.78-1.54)	0.6052
		Adj	1.12(0.77-1.63)	0.5574	1.08(0.76-1.53)	0.6714
	Good	Unadj	**0.36(0.27-0.49)**	**<.0001**	**0.49(0.37-0.64)**	**<.0001**
		Adj	**0.35(0.26-0.49)**	**<.0001**	**0.49(0.37-0.65)**	**<.0001**
Knowledge regarding complications of STI (ref=Poor)	Average	Unadj	0.74(0.53-1.03)	0.0726	0.79(0.58-1.08)	0.1466
		Adj	**0.67(0.47-0.95)**	**0.0238**	0.80(0.58-1.10)	0.1665
	Good	Unadj	**0.30(0.22-0.40)**	**<.0001**	**0.41(0.32-0.53)**	**<.0001**
		Adj	**0.31(0.23-0.42)**	**<.0001**	**0.44(0.34-0.58)**	**<.0001**
Overall knowledge regarding STI including HIV (ref=Poor)	Average	Unadj	**0.73(0.53-1.00)**	**0.0483**	**0.66(0.49-0.88)**	**0.0052**
		Adj	**0.65(0.47-0.91)**	**0.0107**	**0.64(0.47-0.86)**	**0.0034**
	Good	Unadj	**0.38(0.27-0.54)**	**<.0001**	**0.41(0.30-0.56)**	**<.0001**
		Adj	**0.33(0.23-0.48)**	**<.0001**	**0.37(0.27-0.52)**	**<.0001**

Table 3.f. Association between socio-demographic factors and the attitude that to be a friend of an HIV positive patient is uncomfortable, among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	It is uncomfortable to be a friend of an HIV positive patient (ref=agree)			
			Somewhat disagree		Strongly disagree	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	0.98(0.94-1.01)	0.1741	**1.04(1.01-1.08)**	**0.0047**
		Adj	**0.89(0.84-0.94)**	**<.0001**	1.01(0.96-1.06)	0.6687
Age at marriage		Unadj	**1.07(1.03-1.12)**	**0.0015**	**1.08(1.03-1.12)**	**0.0004**
		Adj	**1.06(1.00-1.12)**	**0.0405**	1.03(0.98-1.08)	0.2930
Husband's age		Unadj	1.02(0.99-1.04)	0.1351	**1.03(1.01-1.05)**	**0.0105**
		Adj	**1.06(1.02-1.10)**	**0.0020**	1.01(0.97-1.04)	0.7411
Per capita family income		Unadj	1.01(0.99-1.01)	0.1497	1.01(1.00-1.02)	0.0586
		Adj	1.00(0.98-1.02)	0.7462	1.02(0.99-1.03)	0.2580
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**0.56(0.43-0.72)**	**<.0001**	**0.58(0.46-0.73)**	**<.0001**
		Adj	**0.68(0.50-0.93)**	**0.0137**	**0.72(0.55-0.95)**	**0.0202**
Educational level (ref=No education)	Primary	Unadj	1.17(0.51-2.69)	0.7141	1.14(0.63-2.06)	0.6730
		Adj	1.18(0.49-2.82)	0.7183	1.16(0.63-2.15)	0.6331
	High-school	Unadj	**1.96(1.01-3.83)**	**0.0482**	0.71(0.44-1.15)	0.1677
		Adj	1.90(0.93-3.92)	0.0806	0.73(0.44-1.22)	0.2288
	Graduation and above	Unadj	**6.94(2.99-16.12)**	**<.0001**	**2.18(1.09-4.38)**	**0.0282**
		Adj	**6.40(2.54-16.13)**	**<.0001**	1.79(0.83-3.83)	0.1371
Husband's educational level (ref=No education)	Primary	Unadj	0.71(0.43-1.19)	0.1973	**0.61(0.39-0.94)**	**0.0240**
		Adj	0.67(0.38-1.15)	0.1444	0.64(0.41-1.02)	0.0579
	High-school	Unadj	1.19(0.76-1.86)	0.4434	0.81(0.55-1.18)	0.2727
		Adj	0.78(0.48-1.28)	0.3305	0.72(0.47-1.10)	0.1244
	Graduation and above	Unadj	**2.34(1.28-4.27)**	**0.0057**	1.36(0.79-2.36)	0.2724
		Adj	0.99(0.50-1.97)	0.9808	0.83(0.44-1.55)	0.5542
Currently working?	Yes (ref=No)	Unadj	**0.52(0.27-1.00)**	**0.0483**	0.65(0.38-1.12)	0.1203
		Adj	0.52(0.26-1.04)	0.0646	**0.45(0.25-0.82)**	**0.0094**
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	1.09(0.72-1.65)	0.6975	1.27(0.87-1.85)	0.2132
		Adj	0.97(0.63-1.51)	0.8977	1.36(0.92-2.01)	0.1288
	Business	Unadj	1.35(0.86-2.12)	0.1937	1.21(0.80-1.83)	0.3621
		Adj	0.95(0.59-1.54)	0.8356	1.15(0.74-1.79)	0.5450
	Service	Unadj	**2.33(1.35-4.04)**	**0.0026**	**2.16(1.30-3.61)**	**0.0031**
		Adj	1.23(0.68-2.23)	0.5033	1.57(0.90-2.72)	0.1107
	Self-employed /Professional	Unadj	1.30(0.71-2.40)	0.3981	1.27(0.72-2.22)	0.4107
		Adj	1.02(0.54-1.96)	0.9422	1.38(0.77-2.48)	0.2771
How often husband needs to stay away from you/family at a stretch for 6 months or more?	sometimes	Unadj	1.07(0.40-2.87)	0.8986	1.07(0.49-2.37)	0.8626
		Adj	1.09(0.39-3.02)	0.8754	1.17(0.51-2.69)	0.7146
	Few times	Unadj	2.78(0.94-8.21)	0.0642	1.35(0.52-3.55)	0.5404
		Adj	2.54(0.82-7.86)	0.1068	1.33(0.48-3.66)	0.5812
	Never (ref=most of the time)	Unadj	1.66(0.76-3.63)	0.2068	1.05(0.56-1.97)	0.8758
		Adj	1.57(0.69-3.54)	0.2808	1.13(0.58-2.21)	0.7169
Residential area (ref=Urban)	Rural	Unadj	**0.71(0.55-0.92)**	**0.0090**	**0.63(0.50-0.80)**	**0.0001**
		Adj	0.85(0.63-1.16)	0.3105	0.84(0.64-1.11)	0.2178

Table 3.g. Association of general health perception and knowledge regarding STI/HIV with the attitude that to be friend of an HIV positive patient is uncomfortable, among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR		It is uncomfortable to be a friend of an HIV positive patient (ref=agree)		
				Somewhat disagree	Strongly disagree	
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Perceived general health (ref=Good)	Average	Unadj	1.01(0.77-1.32)	0.9569	0.98(0.77-1.26)	0.8900
		Adj	1.05(0.79-1.38)	0.7455	0.97(0.75-1.25)	0.8249
	Poor	Unadj	0.65(0.38-1.10)	0.1092	0.97(0.63-1.51)	0.9017
		Adj	0.85(0.49-1.49)	0.5757	1.12(0.70-1.78)	0.6421
Knowledge regarding STI symptoms (ref=Poor)	Average	Unadj	1.00(0.69-1.44)	0.9852	0.79(0.57-1.09)	0.1438
		Adj	0.96(0.66-1.41)	0.8384	0.81(0.58-1.13)	0.2227
	Good	Unadj	1.09(0.75-1.58)	0.6699	0.74(0.53-1.03)	0.0730
		Adj	0.91(0.62-1.36)	0.6556	**0.66(0.47-0.94)**	**0.0208**
Knowledge regarding STI transmission knowledge (ref=Poor)	Average	Unadj	0.77(0.53-1.11)	0.1622	**0.68(0.48-0.96)**	**0.0283**
		Adj	0.76(0.52-1.11)	0.1592	**0.66(0.46-0.95)**	**0.0241**
	Good	Unadj	**0.30(0.22-0.42)**	**<.0001**	**0.40(0.30-0.53)**	**<.0001**
		Adj	**0.29(0.21-0.40)**	**<.0001**	**0.38(0.29-0.52)**	**<.0001**
Knowledge regarding complications of STI (ref=Poor)	Average	Unadj	0.84(0.60-1.18)	0.3159	**0.69(0.50-0.95)**	**0.0245**
		Adj	0.82(0.57-1.17)	0.2680	0.73(0.53-1.02)	0.0654
	Good	Unadj	**0.36(0.27-0.49)**	**<.0001**	**0.38(0.29-0.49)**	**<.0001**
		Adj	**0.38(0.28-0.52)**	**<.0001**	**0.39(0.30-0.52)**	**<.0001**
Overall knowledge regarding STI including HIV (ref=Poor)	Average	Unadj	**0.67(0.48-0.94)**	**0.0192**	**0.52(0.38-0.70)**	**<.0001**
		Adj	**0.61(0.44-0.86)**	**0.0051**	**0.50(0.37-0.69)**	**<.0001**
	Good	Unadj	**0.33(0.23-0.47)**	**<.0001**	**0.35(0.25-0.48)**	**<.0001**
		Adj	**0.29(0.20-0.42)**	**<.0001**	**0.32(0.23-0.44)**	**<.0001**

Table 3.h. Association of socio-demographic factors with the attitude that sharing workplace with an HIV positive patient is uncomfortable, among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	It is uncomfortable to share workplace with an HIV positive patient (ref=agree)			
			Somewhat disagree		Strongly disagree	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	0.99(0.96-1.03)	0.6489	**1.07(1.03-1.10)**	**<.0001**
		Adj	**0.92(0.87-0.97)**	**0.0019**	1.03(0.98-1.09)	0.2027
Age at marriage		Unadj	**1.05(1.01-1.10)**	**0.0265**	**1.10(1.05-1.14)**	**<.0001**
		Adj	1.01(0.95-1.07)	0.8063	1.00(0.96-1.05)	0.8822
Husband's age		Unadj	**1.03(1.01-1.06)**	**0.0074**	**1.04(1.02-1.07)**	**0.0003**
		Adj	**1.07(1.03-1.11)**	**0.0003**	1.01(0.98-1.05)	0.5273
Per capita family income		Unadj	**1.02(1.01-1.03)**	**0.0327**	**1.04(1.02-1.07)**	**0.0049**
		Adj	1.00(1.00-1.00)	0.6934	1.03(0.99-1.09)	0.2148
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**0.53(0.41-0.68)**	**<.0001**	**0.54(0.42-0.68)**	**<.0001**
		Adj	**0.68(0.50-0.92)**	**0.0128**	**0.76(0.57-1.00)**	**0.0485**
Educational level (ref=No education)	Primary	Unadj	0.47(0.22-1.01)	0.0518	0.80(0.44-1.45)	0.4532
		Adj	0.56(0.25-1.26)	0.1612	0.87(0.47-1.62)	0.6539
	High-school	Unadj	1.23(0.68-2.20)	0.4971	0.80(0.49-1.32)	0.3815
		Adj	1.49(0.78-2.83)	0.2243	0.90(0.53-1.53)	0.6929
	Graduation and above	Unadj	**4.31(1.89-9.84)**	**0.0005**	**3.58(1.70-7.55)**	**0.0008**
		Adj	**5.13(2.08-12.69)**	**0.0004**	**2.98(1.33-6.71)**	**0.0082**
Husband's educational level (ref=No education)	Primary	Unadj	1.03(0.63-1.68)	0.9005	0.95(0.62-1.46)	0.8118
		Adj	1.02(0.61-1.72)	0.9357	0.95(0.60-1.49)	0.8216
	High-school	Unadj	**1.62(1.06-2.47)**	**0.0257**	1.35(0.93-1.96)	0.1140
		Adj	1.16(0.73-1.85)	0.5372	1.15(0.76-1.73)	0.5127
	Graduation and above	Unadj	**3.00(1.62-5.55)**	**0.0005**	**3.00(1.72-5.25)**	**0.0001**
		Adj	1.42(0.71-2.84)	0.3254	1.50(0.79-2.83)	0.2126
Currently working?	Yes (ref=No)	Unadj	0.58(0.30-1.13)	0.1090	0.86(0.50-1.49)	0.5967
		Adj	0.55(0.27-1.12)	0.1006	**0.51(0.28-0.94)**	**0.0316**
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.99(0.66-1.49)	0.9758	1.36(0.92-1.99)	0.1216
		Adj	0.86(0.56-1.32)	0.4910	1.37(0.92-2.04)	0.1268
	Business	Unadj	1.18(0.76-1.85)	0.4578	**1.55(1.02-2.35)**	**0.0423**
		Adj	0.76(0.47-1.23)	0.2593	1.29(0.82-2.03)	0.2648
	Service	Unadj	**2.72(1.53-4.83)**	**0.0007**	**3.67(2.13-6.33)**	**<.0001**
		Adj	1.39(0.75-2.58)	0.2972	**2.26(1.26-4.05)**	**0.0063**
	Self-employed /Professional	Unadj	1.32(0.75-2.34)	0.3366	0.88(0.49-1.59)	0.6763
		Adj	0.99(0.54-1.80)	0.9638	0.85(0.46-1.57)	0.6118
How often husband needs to stay away from you/family at a stretch for 6 months or more?	sometimes	Unadj	0.83(0.32-2.15)	0.6978	1.04(0.47-2.30)	0.9335
		Adj	0.94(0.35-2.58)	0.9081	1.03(0.45-2.40)	0.9393
	Few times	Unadj	1.64(0.55-4.90)	0.3788	1.87(0.72-4.84)	0.1973
		Adj	1.82(0.57-5.78)	0.3120	1.71(0.63-4.69)	0.2956
	Never (ref=Most of the time)	Unadj	1.47(0.70-3.09)	0.3094	1.18(0.62-2.25)	0.6069
		Adj	1.60(0.72-3.56)	0.2497	1.19(0.60-2.35)	0.6269
Residential area (ref=Urban)	Rural	Unadj	**0.61(0.47-0.79)**	**0.0002**	**0.56(0.44-0.71)**	**<.0001**
		Adj	0.74(0.54-1.00)	0.0514	**0.74(0.56-0.98)**	**0.0355**

Table 3.i. Association of general health perception and knowledge regarding STI/HIV with the attitude that sharing workplace with an HIV positive patient is uncomfortable, among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR		It is uncomfortable to share workplace with an HIV positive patient (ref=agree)		
				Somewhat disagree	Strongly disagree	
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Perceived general health (ref=Good)	Average	Unadj	0.99(0.76-1.29)	0.9502	1.00(0.78-1.28)	0.9886
		Adj	1.05(0.80-1.39)	0.7203	0.97(0.75-1.26)	0.8235
	Poor	Unadj	**0.54(0.32-0.94)**	**0.0283**	0.95(0.62-1.47)	0.8199
		Adj	0.59(0.33-1.06)	0.0784	1.03(0.65-1.62)	0.9163
Knowledge regarding STI symptoms (ref=Poor)	Average	Unadj	0.82(0.56-1.19)	0.2883	**0.59(0.43-0.82)**	**0.0018**
		Adj	0.78(0.53-1.15)	0.2065	**0.60(0.42-0.84)**	**0.0034**
	Good	Unadj	0.93(0.63-1.36)	0.7067	**0.67(0.47-0.94)**	**0.0193**
		Adj	0.78(0.52-1.17)	0.2265	**0.55(0.38-0.78)**	**0.0010**
Knowledge regarding STI transmission knowledge	Average	Unadj	0.81(0.56-1.17)	0.2632	0.80(0.56-1.14)	0.2085
		Adj	0.82(0.56-1.21)	0.3152	0.76(0.53-1.10)	0.1473
	Good (ref=Poor)	Unadj	**0.29(0.21-0.39)**	**<.0001**	**0.43(0.32-0.57)**	**<.0001**
		Adj	**0.28(0.20-0.38)**	**<.0001**	**0.39(0.29-0.53)**	**<.0001**
Knowledge regarding complications of STI (ref=Poor)	Average	Unadj	0.75(0.53-1.05)	0.0959	0.77(0.56-1.07)	0.1212
		Adj	**0.69(0.48-0.99)**	**0.0436**	0.76(0.54-1.06)	0.1094
	Good	Unadj	**0.28(0.21-0.38)**	**<.0001**	**0.38(0.29-0.50)**	**<.0001**
		Adj	**0.29(0.21-0.39)**	**<.0001**	**0.39(0.30-0.52)**	**<.0001**
Overall knowledge regarding STI including HIV	Average	Unadj	**0.70(0.51-0.97)**	**0.0315**	**0.68(0.50-0.92)**	**0.0121**
		Adj	**0.63(0.45-0.89)**	**0.0079**	**0.61(0.45-0.84)**	**0.0026**
	Good (ref=Poor)	Unadj	**0.30(0.21-0.43)**	**<.0001**	**0.42(0.31-0.57)**	**<.0001**
		Adj	**0.27(0.18-0.38)**	**<.0001**	**0.35(0.25-0.49)**	**<.0001**

Table 3.j. Association of socio-demographic factors with the attitude that HIV positive children should not be allowed to study in school, among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	HIV positive children should not be allowed to study in school (ref=Agree)			
			Somewhat disagree		Strongly disagree	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	0.97(0.93-1.00)	0.0537	**1.04(1.01-1.08)**	**0.0065**
		Adj	**0.89(0.85-0.95)**	**<.0001**	1.03(0.98-1.09)	0.2238
Age at marriage		Unadj	**1.05(1.01-1.10)**	**0.0254**	**1.08(1.03-1.12)**	**0.0005**
		Adj	1.04(0.98-1.10)	0.2289	0.98(0.93-1.03)	0.3488
Husband's age		Unadj	1.02(0.99-1.04)	0.2005	**1.03(1.00-1.05)**	**0.0258**
		Adj	**1.06(1.02-1.09)**	**0.0026**	1.00(0.96-1.03)	0.8632
Per capita family income		Unadj	**1.02(1.01-1.03)**	**0.0002**	**1.02(1.01-1.03)**	**<.0001**
		Adj	**1.02(1.01-1.04)**	**0.0489**	**1.03(1.01-1.05)**	**0.0061**
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**0.55(0.42-0.71)**	**<.0001**	**0.49(0.39-0.63)**	**<.0001**
		Adj	**0.67(0.50-0.91)**	**0.0109**	**0.71(0.54-0.94)**	**0.0167**
Educational level (ref=No education)	Primary	Unadj	0.48(0.22-1.03)	0.0584	0.91(0.50-1.65)	0.7548
		Adj	0.48(0.22-1.05)	0.0656	1.06(0.57-1.97)	0.8617
	High-school	Unadj	1.45(0.82-2.59)	0.2057	0.97(0.59-1.59)	0.9016
		Adj	1.44(0.78-2.67)	0.2455	1.30(0.76-2.22)	0.3409
	Graduation and above	Unadj	**4.24(1.86-9.66)**	**0.0006**	**4.24(2.02-8.91)**	**0.0001**
		Adj	**4.02(1.66-9.77)**	**0.0021**	**4.43(1.97-9.94)**	**0.0003**
Husband's educational level (ref=No education)	Primary	Unadj	1.02(0.62-1.67)	0.9337	0.91(0.59-1.39)	0.6571
		Adj	0.92(0.54-1.55)	0.7401	0.91(0.58-1.44)	0.6932
	High-school	Unadj	**1.67(1.09-2.57)**	**0.0189**	1.25(0.86-1.81)	0.2472
		Adj	1.10(0.69-1.76)	0.6964	0.99(0.66-1.50)	0.9646
	Graduation and above	Unadj	**4.33(2.25-8.36)**	**<.0001**	**3.83(2.10-7.00)**	**<.0001**
		Adj	**2.27(1.10-4.68)**	**0.0271**	1.91(0.98-3.75)	0.0590
Currently working?	Yes (ref=No)	Unadj	0.58(0.28-1.21)	0.1465	1.28(0.73-2.24)	0.3840
		Adj	0.63(0.29-1.35)	0.2311	0.90(0.49-1.66)	0.7290
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	1.11(0.73-1.68)	0.6379	1.16(0.79-1.70)	0.4486
		Adj	0.96(0.62-1.48)	0.8504	1.11(0.75-1.66)	0.5999
	Business	Unadj	1.44(0.91-2.27)	0.1169	1.40(0.92-2.14)	0.1169
		Adj	0.89(0.55-1.45)	0.6365	1.06(0.68-1.67)	0.7907
	Service	Unadj	**1.85(1.05-3.26)**	**0.0340**	**2.53(1.51-4.23)**	**0.0004**
		Adj	0.89(0.48-1.63)	0.6949	1.33(0.76-2.32)	0.3255
	Self – employed /Professional	Unadj	1.19(0.65-2.16)	0.5803	1.06(0.60-1.87)	0.8378
		Adj	0.88(0.47-1.65)	0.6870	0.98(0.54-1.78)	0.9428
How often husband needs to stay away from you/family at a stretch for 6 months or more?	sometimes	Unadj	0.84(0.32-2.24)	0.7278	0.83(0.36-1.90)	0.6568
		Adj	0.96(0.35-2.65)	0.9412	0.97(0.41-2.34)	0.9522
	Few times	Unadj	2.07(0.67-6.37)	0.2037	1.37(0.50-3.77)	0.5455
		Adj	2.38(0.74-7.59)	0.1442	1.38(0.47-4.02)	0.5557
	Never (ref=Most of the time)	Unadj	1.19(0.54-2.59)	0.6698	0.80(0.41-1.56)	0.5126
		Adj	1.27(0.56-2.85)	0.5668	0.91(0.45-1.84)	0.7830
Residential area (ref=Urban)	Rural	Unadj	**0.60(0.46-0.79)**	**0.0002**	**0.43(0.34-0.55)**	**<.0001**
		Adj	**0.69(0.51-0.94)**	**0.0198**	**0.54(0.41-0.72)**	**<.0001**

Table 3.k. Association of general health perception and knowledge regarding STI/HIV with the attitude that HIV positive children should not be allowed to study in school, among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	HIV positive children should not be allowed to study in school (ref=agree)			
			Somewhat disagree		Strongly disagree	
Continuous			OR (95%CI)	p value	OR (95%CI)	p value
Perceived general health (ref=Good)	Average	Unadj	1.00(0.77-1.31)	0.9787	1.02(0.79-1.30)	0.8927
		Adj	1.05(0.80-1.40)	0.7137	1.03(0.79-1.33)	0.8512
	Poor	Unadj	0.80(0.48-1.32)	0.3722	0.86(0.55-1.35)	0.5134
		Adj	0.88(0.52-1.49)	0.6285	0.90(0.56-1.45)	0.6574
Knowledge regarding STI symptoms (ref=Poor)	Average	Unadj	0.95(0.66-1.36)	0.7665	**0.71(0.51-0.99)**	**0.0415**
		Adj	0.86(0.59-1.25)	0.4249	**0.65(0.46-0.91)**	**0.0123**
	Good	Unadj	1.04(0.71-1.51)	0.8520	1.06(0.76-1.49)	0.7309
		Adj	0.87(0.58-1.29)	0.4843	0.84(0.59-1.20)	0.3296
Knowledge regarding STI transmission knowledge (ref=Poor)	Average	Unadj	0.85(0.59-1.24)	0.3985	0.77(0.54-1.10)	0.1440
		Adj	0.80(0.54-1.17)	0.2461	0.71(0.49-1.02)	0.0644
	Good	Unadj	**0.34(0.25-0.46)**	**<.0001**	**0.44(0.33-0.59)**	**<.0001**
		Adj	**0.33(0.24-0.45)**	**<.0001**	**0.40(0.30-0.55)**	**<.0001**
Knowledge regarding complications of STI (ref=Poor)	Average	Unadj	0.98(0.69-1.39)	0.8982	0.87(0.62-1.21)	0.4102
		Adj	0.92(0.64-1.32)	0.6417	0.85(0.60-1.21)	0.3671
	Good	Unadj	**0.32(0.24-0.43)**	**<.0001**	**0.38(0.29-0.50)**	**<.0001**
		Adj	**0.33(0.24-0.45)**	**<.0001**	**0.40(0.30-0.52)**	**<.0001**
Overall knowledge regarding STI including HIV (ref=Poor)	Average	Unadj	0.76(0.55-1.05)	0.1002	0.74(0.55-1.01)	0.0586
		Adj	**0.68(0.48-0.94)**	**0.0216**	**0.66(0.48-0.91)**	**0.0102**
	Good	Unadj	**0.31(0.22-0.45)**	**<.0001**	**0.51(0.38-0.70)**	**<.0001**
		Adj	**0.27(0.19-0.40)**	**<.0001**	**0.43(0.31-0.59)**	**<.0001**

Table 3.l. Association of socio-demographic factors with the overall attitude towards HIV, among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	Overall attitude towards HIV (ref=Poor)			
			Average		Good	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.00(0.96-1.03)	0.7679	**1.07(1.04-1.10)**	**<.0001**
		Adj	0.95(0.91-1.00)	0.0654	**1.06(1.01-1.12)**	**0.0205**
Age at marriage		Unadj	1.03(0.99-1.08)	0.1135	**1.09(1.05-1.14)**	**<.0001**
		Adj	1.01(0.96-1.06)	0.8282	0.99(0.94-1.04)	0.6721
Husband's age		Unadj	1.01(0.99-1.03)	0.3966	**1.03(1.01-1.06)**	**0.0031**
		Adj	1.02(0.99-1.06)	0.1416	0.98(0.95-1.02)	0.3500
Per capita family income		Unadj	**1.04(1.01-1.07)**	**0.0261**	**1.03(1.02-1.04)**	**0.0002**
		Adj	1.00(1.00-1.00)	0.2872	**1.03(1.01-1.05)**	**0.0297**
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**0.72(0.57-0.92)**	**0.0068**	**0.48(0.38-0.61)**	**<.0001**
		Adj	0.85(0.64-1.12)	0.2346	**0.68(0.51-0.90)**	**0.0069**
Educational level (ref=No education)	Primary	Unadj	0.75(0.38-1.46)	0.3905	1.05(0.57-1.96)	0.8743
		Adj	0.75(0.37-1.49)	0.4051	1.23(0.64-2.34)	0.5324
	High-school	Unadj	0.88(0.52-1.49)	0.6388	0.69(0.41-1.15)	0.1564
		Adj	0.90(0.51-1.57)	0.7074	0.84(0.49-1.46)	0.5460
	Graduation and above	Unadj	**2.53(1.24-5.15)**	**0.0108**	**3.01(1.52-5.96)**	**0.0016**
		Adj	**2.39(1.11-5.17)**	**0.0267**	**2.66(1.25-5.66)**	**0.0111**
Husband's educational level (ref=No education)	Primary	Unadj	0.94(0.60-1.47)	0.7773	0.81(0.52-1.28)	0.3664
		Adj	0.92(0.57-1.47)	0.7138	0.85(0.53-1.37)	0.5016
	High-school	Unadj	1.18(0.79-1.74)	0.4202	1.09(0.74-1.60)	0.6748
		Adj	0.98(0.64-1.50)	0.9260	0.95(0.62-1.47)	0.8253
	Graduation and above	Unadj	**2.09(1.20-3.62)**	**0.0089**	**2.44(1.43-4.17)**	**0.0011**
		Adj	1.21(0.65-2.25)	0.5465	1.31(0.70-2.43)	0.3976
Currently working?	Yes (ref=No)	Unadj	1.17(0.65-2.11)	0.6018	1.22(0.68-2.19)	0.5073
		Adj	1.10(0.59-2.03)	0.7727	0.69(0.35-1.33)	0.2674
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	1.06(0.73-1.55)	0.7572	1.41(0.94-2.12)	0.0957
		Adj	0.97(0.65-1.43)	0.8569	1.51(0.98-2.31)	0.0615
	Business	Unadj	1.16(0.76-1.76)	0.4926	**1.62(1.05-2.51)**	**0.0310**
		Adj	0.91(0.59-1.41)	0.6663	1.46(0.91-2.35)	0.1202
	Service	Unadj	**1.86(1.12-3.08)**	**0.0161**	**2.92(1.74-4.89)**	**<.0001**
		Adj	1.20(0.70-2.06)	0.5098	**1.80(1.02-3.16)**	**0.0424**
	Self-employed /Professional	Unadj	1.04(0.60-1.80)	0.8844	0.94(0.51-1.73)	0.8470
		Adj	0.85(0.49-1.50)	0.5817	0.95(0.50-1.81)	0.8718
How often husband needs to stay away from you/family at a stretch for 6 months or more?	sometimes	Unadj	0.52(0.21-1.30)	0.1631	1.28(0.57-2.90)	0.5541
		Adj	0.53(0.21-1.35)	0.1821	1.46(0.60-3.53)	0.4029
	Few times	Unadj	1.60(0.60-4.25)	0.3455	1.70(0.65-4.48)	0.2833
		Adj	1.52(0.56-4.11)	0.4111	1.57(0.55-4.48)	0.3991
	Never (ref=Most of the time)	Unadj	1.13(0.58-2.22)	0.7209	1.09(0.56-2.14)	0.8033
		Adj	1.11(0.55-2.21)	0.7761	1.23(0.59-2.57)	0.5823
Residential area (ref=Urban)	Rural	Unadj	**0.74(0.58-0.95)**	**0.0160**	**0.44(0.35-0.56)**	**<.0001**
		Adj	0.85(0.64-1.12)	0.2499	**0.60(0.46-0.80)**	**0.0003**

Table 3.m. Association of general health perception and knowledge regarding STI/HIV with the overall attitude towards HIV, among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR		Overall attitude towards HIV (ref=Poor)		
				Average	Good	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Perceived general health (ref=Good)	Average	Unadj	1.01(0.79-1.30)	0.9152	1.11(0.87-1.42)	0.4158
		Adj	1.04(0.81-1.35)	0.7461	1.10(0.85-1.43)	0.4866
	Poor	Unadj	0.76(0.47-1.23)	0.2594	1.10(0.70-1.72)	0.6810
		Adj	0.84(0.51-1.39)	0.4960	1.23(0.77-1.98)	0.3858
Knowledge regarding STI symptoms (ref=Poor)	Average	Unadj	0.92(0.66-1.28)	0.6092	**0.60(0.44-0.83)**	**0.0021**
		Adj	0.85(0.60-1.20)	0.3631	**0.59(0.42-0.83)**	**0.0022**
	Good	Unadj	0.89(0.63-1.26)	0.5177	0.72(0.52-1.01)	0.0543
		Adj	0.75(0.52-1.07)	0.1127	**0.58(0.41-0.82)**	**0.0024**
Knowledge regarding STI transmission knowledge (ref=Poor)	Average	Unadj	0.89(0.63-1.23)	0.4704	0.80(0.57-1.12)	0.1914
		Adj	0.87(0.62-1.23)	0.4253	0.76(0.53-1.07)	0.1167
	Good	Unadj	**0.40(0.30-0.53)**	**<.0001**	**0.42(0.31-0.55)**	**<.0001**
		Adj	**0.38(0.28-0.51)**	**<.0001**	**0.38(0.29-0.52)**	**<.0001**
Knowledge regarding complications of STI (ref=Poor)	Average	Unadj	0.79(0.57-1.08)	0.1363	**0.72(0.52-0.98)**	**0.0377**
		Adj	0.75(0.54-1.03)	0.0758	**0.71(0.51-0.99)**	**0.0458**
	Good	Unadj	**0.36(0.27-0.47)**	**<.0001**	**0.31(0.24-0.41)**	**<.0001**
		Adj	**0.35(0.26-0.46)**	**<.0001**	**0.31(0.24-0.42)**	**<.0001**
Overall knowledge regarding STI including HIV (ref=Poor)	Average	Unadj	**0.67(0.50-0.90)**	**0.0075**	**0.59(0.44-0.80)**	**0.0006**
		Adj	**0.61(0.45-0.82)**	**0.0013**	**0.54(0.40-0.74)**	**0.0001**
	Good	Unadj	**0.34(0.24-0.46)**	**<.0001**	**0.38(0.28-0.52)**	**<.0001**
		Adj	**0.29(0.21-0.40)**	**<.0001**	**0.32(0.23-0.45)**	**<.0001**

Table 4.a. Distribution of the husband's sexual behavior as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
Does your husband consume alcohol before having sex with you?	Very rare or never	1341	80.30	78.39	82.21
	Sometimes	292	17.49	15.66	19.31
	Most of the time	37	2.22	1.51	2.92
During your pregnancy did your husband have sex with you?	Did not happen	473	28.32	26.16	30.49
	Oral sex or other	70	4.19	3.23	5.15
	Anal sex	75	4.49	3.50	5.49
	Vaginal sex.	1052	62.99	60.68	65.31
While having sex, did your husband ever use slang language or behave badly with you?	No	1524	91.26	89.90	92.61
	Yes	146	8.74	7.39	10.10
While having sex, has your husband ever physically assaulted you?	No	1563	93.59	92.42	94.77
	Yes	107	6.41	5.23	7.58
Do you suspect that your husband had or could have sexual relations with any other women?	No	1520	91.02	89.65	92.39
	Yes	150	8.98	7.61	10.35
Do you think the woman apart from you with whom your husband has sex is a sex worker?	No	1598	95.69	94.71	96.66
	Yes	72	4.31	3.34	5.29

Table 4.b. Distribution of the husband's sexual behavior as reported by the recruited antenatal care attendees who were interviewed by an interviewer (N=176), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CI	
				Lower	Upper
Does your husband consume alcohol before having sex with you?	Very rare or never consumes.	154	87.50	82.57	92.43
	Consumes sometimes.	19	10.80	6.17	15.43
	Consumes most of the time.	3	1.70	0.00	3.64
During your pregnancy did your husband have sex with you?	Did not happen	58	32.95	25.94	39.97
	Oral sex or other	0	0	-	-
	Anal sex	3	1.70	0.00	3.64
	Vaginal sex.	115	65.34	58.24	72.44
While having sex, did your husband ever use slang language or behave badly with you?	No	168	95.45	92.35	98.56
	Yes	8	4.55	1.44	7.65
While having sex, has your husband ever physically assaulted you?	No	170	96.59	93.88	99.30
	Yes	6	3.41	0.70	6.12
Do you suspect that your husband had or could have sexual relations with any other women?	No	164	93.18	89.42	96.94
	Yes	12	6.82	3.06	10.58
Do you think the woman apart from you with whom your husband has sex is a sex worker?	No	175	99.43	98.31	100.00
	Yes	1	0.57	0.00	1.69

Table 4.c. Association of socio-demographic factors with husband's alcohol consumption pattern before sex as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Consumption of alcohol before having sex with you (ref=Never/Very rare)			
			Sometimes		Almost always	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.01(0.98-1.04)	0.5468	1.03(0.95-1.12)	0.5285
		Adj	**1.09(1.03-1.15)**	**0.0035**	1.01(0.88-1.16)	0.8444
Age at marriage		Unadj	0.96(0.92-1.00)	0.0552	0.96(0.85-1.08)	0.4771
		Adj	**0.91(0.86-0.96)**	**0.0004**	0.97(0.85-1.11)	0.6585
Husband's age		Unadj	0.99(0.96-1.01)	0.2637	1.01(0.95-1.07)	0.8555
		Adj	**0.92(0.88-0.95)**	**<.0001**	0.97(0.88-1.06)	0.5098
Per capita family income		Unadj	0.99(0.98-1.01)	0.8193	**1.02(1.01-1.03)**	**0.0351**
		Adj	0.98(0.96-1.02)	0.9737	1.00(0.98-1.02)	0.1407
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**0.33(0.26-0.44)**	**<.0001**	0.56(0.29-1.08)	0.0853
		Adj	**0.30(0.22-0.42)**	**<.0001**	0.66(0.30-1.44)	0.2957
Educational level (ref=No education)	Primary	Unadj	0.89(0.49-1.61)	0.7030	0.51(0.19-1.41)	0.1967
		Adj	1.08(0.56-2.07)	0.8192	0.61(0.20-1.85)	0.3793
	High-school	Unadj	**0.41(0.25-0.67)**	**0.0003**	**0.11(0.05-0.25)**	**<.0001**
		Adj	**0.56(0.32-0.98)**	**0.0407**	**0.22(0.08-0.58)**	**0.0023**
	Graduation and above	Unadj	**0.34(0.17-0.66)**	**0.0016**	**0.05(0.01-0.42)**	**0.0054**
		Adj	0.46(0.21-1.01)	0.0537	0.21(0.02-1.97)	0.1706
Husband's educational level (ref=No education)	Primary	Unadj	1.31(0.81-2.11)	0.2750	0.72(0.29-1.77)	0.4685
		Adj	1.56(0.91-2.67)	0.1025	1.44(0.51-4.02)	0.4883
	High-school	Unadj	0.98(0.64-1.50)	0.9109	**0.29(0.12-0.66)**	**0.0034**
		Adj	0.88(0.54-1.45)	0.6268	0.63(0.24-1.68)	0.3610
	Graduation and above	Unadj	**0.40(0.20-0.80)**	**0.0095**	**0.10(0.01-0.82)**	**0.0319**
		Adj	**0.32(0.14-0.72)**	**0.0061**	0.38(0.04-3.78)	0.4098
Currently working?	Yes (ref=No)	Unadj	0.88(0.46-1.70)	0.7080	0.63(0.08-4.65)	0.6482
		Adj	0.99(0.48-2.03)	0.9790	0.67(0.08-5.50)	0.7063
Husband's occupation (ref=Unskilled worker)	Skilled worker	Unadj	1.01(0.66-1.54)	0.9778	**0.31(0.14-0.66)**	**0.0026**
		Adj	1.31(0.82-2.08)	0.2588	0.53(0.23-1.22)	0.1330
	Business	Unadj	0.80(0.50-1.29)	0.3630	**0.10(0.03-0.37)**	**0.0005**
		Adj	1.06(0.63-1.78)	0.8341	**0.21(0.05-0.81)**	**0.0240**
	Service	Unadj	1.08(0.64-1.83)	0.7634	**0.08(0.01-0.59)**	**0.0139**
		Adj	1.03(0.57-1.86)	0.9339	0.12(0.01-1.04)	0.0542
	Self-employed /Professional	Unadj	0.49(0.23-1.01)	0.0544	0.47(0.15-1.51)	0.2053
		Adj	0.55(0.25-1.23)	0.1470	0.86(0.24-3.00)	0.8097
How often husband needs to stay away from you/family at a stretch for 6 months or more?	Sometimes	Unadj	1.17(0.47-2.89)	0.7408	0.98(0.16-6.15)	0.9858
		Adj	1.06(0.41-2.78)	0.9010	0.99(0.14-6.96)	0.9947
	Few times	Unadj	2.01(0.77-5.24)	0.1548	1.29(0.17-9.68)	0.8042
		Adj	1.94(0.70-5.43)	0.2049	0.69(0.05-8.91)	0.7781
	Never (ref=Most of the time)	Unadj	0.93(0.45-1.94)	0.8468	0.50(0.11-2.15)	0.3487
		Adj	0.90(0.41-1.97)	0.7959	0.59(0.12-2.81)	0.5047
Residential area (ref=Urban)	Rural	Unadj	**0.39(0.30-0.51)**	**<.0001**	**0.39(0.20-0.76)**	**0.0057**
		Adj	**0.55(0.41-0.75)**	**0.0001**	**0.39(0.18-0.87)**	**0.0216**

Table 4.d. Association of socio-demographic factors with having vaginal sex with husband during pregnancy as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Husband had vaginal sex with you during pregnancy (ref=No)	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	**0.94(0.91-0.97)**	**<.0001**
		Adj	**0.95(0.91-0.99)**	**0.0302**
Age at marriage		Unadj	1.01(0.97-1.04)	0.7551
		Adj	1.03(0.99-1.08)	0.1474
Husband's age		Unadj	**0.96(0.94-0.98)**	**0.0002**
		Adj	0.99(0.96-1.02)	0.5029
Per capita family income		Unadj	0.99(0.98-1.01)	0.0976
		Adj	1.00(0.99-1.01)	0.5417
Categorical	**Categories**		**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	1.11(0.89-1.38)	0.3505
		Adj	0.98(0.75-1.27)	0.8806
Educational level (ref=No education)	Primary	Unadj	1.17(0.67-2.06)	0.5746
		Adj	1.13(0.63-2.00)	0.6869
	High-school	Unadj	**2.63(1.67-4.15)**	**<.0001**
		Adj	**2.23(1.38-3.62)**	**0.0011**
	Graduation and above	Unadj	**3.12(1.72-5.65)**	**0.0002**
		Adj	**2.78(1.44-5.35)**	**0.0023**
Husband's educational level (ref=No education)	Primary	Unadj	1.43(0.95-2.14)	0.0829
		Adj	1.11(0.72-1.72)	0.6254
	High-school	Unadj	**1.60(1.13-2.26)**	**0.0080**
		Adj	1.14(0.77-1.68)	0.5202
	Graduation and above	Unadj	**1.75(1.08-2.84)**	**0.0230**
		Adj	1.21(0.69-2.13)	0.5058
Currently working?	Yes (ref=No)	Unadj	0.79(0.46-1.35)	0.3852
		Adj	0.85(0.48-1.51)	0.5723
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	1.31(0.92-1.87)	0.1309
		Adj	1.18(0.81-1.71)	0.3807
	Business	Unadj	**1.49(1.01-2.20)**	**0.0442**
		Adj	1.25(0.82-1.90)	0.2967
	Service	Unadj	1.21(0.77-1.90)	0.4189
		Adj	0.96(0.58-1.57)	0.8637
	Self-employed /Professional	Unadj	1.38(0.82-2.34)	0.2286
		Adj	1.21(0.70-2.11)	0.4911
How often husband needs to stay away from you/family at a stretch for 6 months or more?	sometimes	Unadj	1.53(0.68-3.45)	0.3053
		Adj	1.35(0.57-3.17)	0.4955
	Few times	Unadj	1.38(0.56-3.36)	0.4844
		Adj	1.12(0.44-2.87)	0.8105
	Never (ref=Most of the time)	Unadj	1.09(0.59-2.01)	0.7770
		Adj	0.91(0.47-1.76)	0.7710
Residential area (ref=Urban)	Rural	Unadj	1.19(0.95-1.48)	0.1260
		Adj	1.07(0.82-1.38)	0.6327

Table 4.e. Association of socio-demographic factors with husband's verbal abuse/misbehavior while having sex as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Husband use slang language/behave badly during sex with you (ref=No)	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.03(0.99-1.08)	0.1416
		Adj	**1.09(1.01-1.17)**	**0.0239**
Age at marriage		Unadj	**0.86(0.80-0.92)**	**<.0001**
		Adj	**0.92(0.85-0.99)**	**0.0299**
Husband's age		Unadj	0.99(0.96-1.02)	0.4415
		Adj	**0.95(0.90-1.00)**	**0.0437**
Per capita family income		Unadj	**1.03(1.02-1.04)**	**0.0020**
		Adj	1.03(1.00-1.06)	0.1699
Categorical	**Categories**		**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**1.70(1.19-2.42)**	**0.0033**
		Adj	1.37(0.89-2.10)	0.1503
Educational level (ref=No education)	Primary	Unadj	0.64(0.35-1.16)	0.1391
		Adj	0.55(0.29-1.04)	0.0659
	High-school	Unadj	**0.15(0.09-0.25)**	**<.0001**
		Adj	**0.13(0.07-0.24)**	**<.0001**
	Graduation and above	Unadj	**0.03(0.01-0.14)**	**<.0001**
		Adj	**0.04(0.01-0.21)**	**<.0001**
Husband's educational level (ref=No education)	Primary	Unadj	0.64(0.39-1.05)	0.0773
		Adj	0.82(0.47-1.42)	0.4832
	High-school	Unadj	**0.26(0.16-0.40)**	**<.0001**
		Adj	**0.53(0.31-0.88)**	**0.0144**
	Graduation and above	Unadj	**0.13(0.05-0.34)**	**<.0001**
		Adj	0.44(0.15-1.30)	0.1393
Currently working?	Yes (ref=No)	Unadj	1.60(0.78-3.30)	0.2003
		Adj	1.57(0.66-3.72)	0.3067
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	**0.49(0.31-0.78)**	**0.0023**
		Adj	0.69(0.42-1.14)	0.1435
	Business	Unadj	**0.29(0.17-0.52)**	**<.0001**
		Adj	0.66(0.35-1.23)	0.1878
	Service	Unadj	**0.21(0.10-0.48)**	**0.0002**
		Adj	0.64(0.27-1.53)	0.3155
	Self-employed /Professional	Unadj	0.48(0.22-1.01)	0.0542
		Adj	0.73(0.32-1.68)	0.4637
How often husband needs to stay away from you/family at a stretch for 6 months or more?	sometimes	Unadj	**8.82(1.11-70.08)**	**0.0395**
		Adj	**11.75(1.31-105.50)**	**0.0278**
	Few times	Unadj	2.22(0.19-25.34)	0.5203
		Adj	2.90(0.23-37.13)	0.4139
	Never (ref=Most of the time)	Unadj	4.81(0.66-35.11)	0.1213
		Adj	7.00(0.86-56.76)	0.0684
Residential area (ref=Urban)	Rural	Unadj	**1.46(1.02-2.10)**	**0.0386**
		Adj	1.55(0.98-2.43)	0.0604

Table 4.f. Association of socio-demographic factors with being physically assaulted/abused by husband while having sex with him as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	While having sex, physically assault/abuse by husband (ref=No)	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.04(0.99-1.09)	0.1101
		Adj	**1.09(1.01-1.19)**	**0.0422**
Age at marriage		Unadj	**0.86(0.79-0.93)**	**0.0003**
		Adj	0.93(0.85-1.01)	0.0986
Husband's age		Unadj	0.99(0.96-1.03)	0.7837
		Adj	0.95(0.90-1.01)	0.1050
Per capita family income		Unadj	**1.02(1.01-1.03)**	**0.0006**
		Adj	1.02(1.00-1.04)	0.1378
Categorical	**Categories**		**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**2.43(1.57-3.75)**	**<.0001**
		Adj	**2.23(1.33-3.74)**	**0.0025**
Educational level (ref=No education)	Primary	Unadj	0.62(0.33-1.19)	0.1546
		Adj	0.53(0.26-1.08)	0.0795
	High-school	Unadj	**0.15(0.09-0.26)**	**<.0001**
		Adj	**0.13(0.07-0.25)**	**<.0001**
	Graduation and above	Unadj	**0.02(0.00-0.17)**	**0.0002**
		Adj	**0.03(0.00-0.26)**	**0.0013**
Husband's educational level (ref=No education)	Primary	Unadj	0.68(0.39-1.18)	0.1721
		Adj	1.11(0.59-2.07)	0.7493
	High-school	Unadj	**0.26(0.15-0.43)**	**<.0001**
		Adj	0.70(0.39-1.28)	0.2510
	Graduation and above	Unadj	**0.11(0.03-0.37)**	**0.0003**
		Adj	0.55(0.14-2.05)	0.3691
Currently working?	Yes (ref=No)	Unadj	1.69(0.76-3.80)	0.2003
		Adj	1.62(0.63-4.12)	0.3141
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.64(0.37-1.11)	0.1090
		Adj	0.94(0.51-1.72)	0.8430
	Business	Unadj	**0.38(0.19-0.74)**	**0.0049**
		Adj	0.92(0.43-1.94)	0.8176
	Service	Unadj	**0.18(0.06-0.55)**	**0.0025**
		Adj	0.63(0.19-2.02)	0.4338
	Self-employed /Professional	Unadj	1.03(0.48-2.21)	0.9453
		Adj	1.76(0.75-4.15)	0.1951
How often husband needs to stay away from you/family at a stretch for 6 months or more?	sometimes	Unadj	2.35(0.47-11.78)	0.2992
		Adj	7.29(0.69-77.27)	0.0991
	Few times	Unadj	-	-
		Adj	-	-
	Never (ref=Most of the time)	Unadj	1.72(0.41-7.19)	0.4557
		Adj	5.85(0.64-53.29)	0.1173
Residential area (ref=Urban)	Rural	Unadj	**1.60(1.05-2.44)**	**0.0291**
		Adj	1.33(0.78-2.24)	0.2921

Table 4.g. Association of socio-demographic factors with having the suspicion that husband has/had sexual relations with other women as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Suspect that husband has/had sexual relations with other women (ref=No)	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.04(1.00-1.08)	0.0753
		Adj	1.02(0.95-1.10)	0.5461
Age at marriage		Unadj	0.96(0.90-1.02)	0.1588
		Adj	1.00(0.93-1.07)	0.9809
Husband's age		Unadj	1.02(0.99-1.05)	0.2882
		Adj	1.00(0.96-1.05)	0.9590
Per capita family income		Unadj	**1.03(1.01-1.04)**	**0.0147**
		Adj	1.02(1.00-1.04)	0.2780
Categorical	**Categories**		**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**1.62(1.14-2.29)**	**0.0066**
		Adj	**1.68(1.10-2.55)**	**0.0153**
Educational level (ref=No education)	Primary	Unadj	**0.47(0.25-0.88)**	**0.0188**
		Adj	**0.43(0.22-0.84)**	**0.0130**
	High-school	Unadj	**0.18(0.11-0.30)**	**<.0001**
		Adj	**0.19(0.11-0.33)**	**<.0001**
	Graduation and above	Unadj	**0.09(0.03-0.24)**	**<.0001**
		Adj	**0.10(0.03-0.30)**	**<.0001**
Husband's educational level (ref=No education)	Primary	Unadj	0.72(0.43-1.22)	0.2219
		Adj	1.06(0.59-1.88)	0.8520
	High-school	Unadj	**0.40(0.25-0.63)**	**<.0001**
		Adj	0.78(0.46-1.34)	0.3697
	Graduation and above	Unadj	**0.19(0.08-0.48)**	**0.0004**
		Adj	0.54(0.20-1.49)	0.2357
Currently working?	Yes (ref=No)	Unadj	**1.99(1.02-3.89)**	**0.0426**
		Adj	2.08(0.99-4.35)	0.0525
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.65(0.40-1.05)	0.0770
		Adj	0.83(0.49-1.39)	0.4733
	Business	Unadj	0.58(0.33-1.00)	0.0502
		Adj	0.97(0.53-1.77)	0.9150
	Service	Unadj	**0.24(0.10-0.57)**	**0.0012**
		Adj	0.47(0.19-1.18)	0.1070
	Self-employed /Professional	Unadj	0.61(0.28-1.33)	0.2172
		Adj	0.79(0.34-1.82)	0.5819
How often husband needs to stay away from you/family at a stretch for 6 months or more?	sometimes	Unadj	0.60(0.21-1.71)	0.3360
		Adj	0.60(0.19-1.84)	0.3693
	Few times	Unadj	0.64(0.19-2.11)	0.4642
		Adj	0.53(0.14-2.05)	0.3606
	Never (ref=Most of the time)	Unadj	0.51(0.23-1.11)	0.0878
		Adj	0.56(0.24-1.29)	0.1733
Residential area (ref=Urban)	Rural	Unadj	1.18(0.84-1.67)	0.3445
		Adj	1.07(0.71-1.63)	0.7413

Table 4.h. Association of socio-demographic factors with the thinking that the other woman with whom husband has/had sexual relation is a sex worker, as reported by the antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	**1.07(1.01-1.13)**	**0.0157**
		Adj	**1.11(1.01-1.22)**	**0.0449**
Age at marriage		Unadj	0.92(0.84-1.00)	0.0576
		Adj	0.98(0.89-1.07)	0.6098
Husband's age		Unadj	1.02(0.98-1.06)	0.4132
		Adj	0.96(0.90-1.03)	0.2789
Per capita family income		Unadj	**1.02(1.01-1.03)**	**0.0299**
		Adj	1.02(0.99-1.04)	0.5346
Categorical	**Categories**		**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**1.84(1.12-3.03)**	**0.0167**
		Adj	1.65(0.91-3.00)	0.0985
Educational level (ref=No education)	Primary	Unadj	**0.47(0.22-0.99)**	**0.0458**
		Adj	**0.45(0.20-0.99)**	**0.0466**
	High-school	Unadj	**0.12(0.06-0.22)**	**<.0001**
		Adj	**0.12(0.06-0.25)**	**<.0001**
	Graduation and above	Unadj	**0.06(0.01-0.26)**	**0.0002**
		Adj	**0.08(0.02-0.39)**	**0.0018**
Husband's educational level (ref=No education)	Primary	Unadj	0.81(0.43-1.55)	0.5315
		Adj	1.44(0.69-2.99)	0.3265
	High-school	Unadj	**0.26(0.14-0.48)**	**<.0001**
		Adj	0.66(0.32-1.36)	0.2550
	Graduation and above	Unadj	**0.12(0.03-0.51)**	**0.0045**
		Adj	0.43(0.08-2.19)	0.3089
Currently working?	Yes (ref=No)	Unadj	1.79(0.70-4.59)	0.2265
		Adj	1.41(0.48-4.10)	0.5312
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	**0.48(0.26-0.91)**	**0.0242**
		Adj	0.66(0.33-1.29)	0.2218
	Business	Unadj	**0.40(0.19-0.85)**	**0.0168**
		Adj	0.78(0.34-1.79)	0.5604
	Service	Unadj	**0.12(0.03-0.52)**	**0.0050**
		Adj	0.30(0.06-1.41)	0.1278
	Self-employed /Professional	Unadj	0.85(0.35-2.09)	0.7297
		Adj	1.24(0.46-3.33)	0.6664
How often husband needs to stay away from you/family at a stretch for 6 months or more?	sometimes	Unadj	0.78(0.20-3.06)	0.7256
		Adj	0.84(0.19-3.82)	0.8224
	Few times	Unadj	0.80(0.17-3.78)	0.7794
		Adj	1.05(0.19-5.69)	0.9581
	Never (ref=Most of the time)	Unadj	0.49(0.17-1.41)	0.1871
		Adj	0.59(0.18-1.95)	0.3874
Residential area (ref=Urban)	Rural	Unadj	1.50(0.91-2.49)	0.1141
		Adj	1.57(0.84-2.91)	0.1546

Table 4.i. Distribution of the sexual relationship with husband among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
How is your sexual experience with your husband?	Excellent	836	50.06	47.66	52.46
	Good	472	28.26	26.10	30.43
	Ok	282	16.89	15.09	18.68
	Bad	80	4.79	3.77	5.82
Before trying to have a baby, while having sex who took the decision if you should use a condom?	Self	8	9.88	3.24	16.51
	Both together	59	72.84	62.94	82.74
	Husband	14	17.28	8.87	25.70

Table 4.j. Distribution of the sexual relationship with husband among recruited antenatal care attendees who were interviewed by an interviewer (N=176), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
How is your sexual experience with your husband?	Excellent	46	26.14	19.58	32.69
	Good	87	49.43	41.97	56.89
	Ok	40	22.73	16.48	28.98
	Bad	3	1.70	0.00	3.64

Table 4.k. Association of socio-demographic factors with the quality of sexual relationship/experience with husband, as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	How is your sexual relationship/experience with your husband? (ref=Excellent)			
			Good/OK		Bad	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	**0.97(0.94-0.99)**	**0.0353**	1.03(0.98-1.09)	0.2668
		Adj	**0.94(0.90-0.99)**	**0.0151**	1.08(0.98-1.19)	0.1089
Age at marriage		Unadj	1.02(0.98-1.06)	0.3828	0.96(0.88-1.04)	0.2967
		Adj	1.04(0.99-1.09)	0.1493	1.01(0.92-1.11)	0.8624
Husband's age		Unadj	0.99(0.97-1.01)	0.2041	0.99(0.95-1.04)	0.7051
		Adj	1.02(0.99-1.05)	0.2557	0.96(0.89-1.02)	0.2002
Per capita family income		Unadj	1.00(0.99-1.01)	0.3490	**1.02(1.01-1.03)**	**0.0048**
		Adj	1.00(1.99-1.01)	0.8666	1.02(0.99-1.04)	0.0615
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	1.22(0.97-1.53)	0.0871	**1.75(1.09-2.82)**	**0.0206**
		Adj	1.29(0.98-1.69)	0.0644	1.29(0.74-2.25)	0.3676
Educational level (ref=No education)	Primary	Unadj	0.88(0.43-1.77)	0.7122	0.55(0.22-1.37)	0.1987
		Adj	0.87(0.43-1.78)	0.7060	0.49(0.19-1.26)	0.1395
	High-school	Unadj	1.66(0.94-2.92)	0.0808	**0.38(0.19-0.77)**	**0.0076**
		Adj	1.41(0.78-2.56)	0.2577	**0.38(0.17-0.84)**	**0.0170**
	Graduation and above	Unadj	**2.44(1.25-4.76)**	**0.0089**	**0.15(0.03-0.70)**	**0.0159**
		Adj	2.02(0.98-4.18)	0.0579	**0.17(0.03-0.92)**	**0.0390**
Husband's educational level (ref=No education)	Primary	Unadj	1.07(0.67-1.70)	0.7827	0.65(0.31-1.38)	0.2594
		Adj	0.92(0.57-1.50)	0.7457	0.74(0.33-1.66)	0.4664
	High-school	Unadj	1.33(0.89-1.98)	0.1713	0.57(0.30-1.08)	0.0871
		Adj	1.07(0.69-1.66)	0.7554	0.95(0.46-1.94)	0.8808
	Graduation and above	Unadj	1.53(0.91-2.56)	0.1088	**0.16(0.04-0.74)**	**0.0190**
		Adj	1.11(0.61-2.01)	0.7297	0.40(0.08-2.02)	0.2670
Currently working?	Yes (ref=No)	Unadj	**1.82(1.05-3.14)**	**0.0319**	2.00(0.75-5.34)	0.1667
		Adj	**1.83(1.03-3.25)**	**0.0406**	1.75(0.61-5.00)	0.2992
Husband's occupation (ref=Unskilled worker)	Skilled worker	Unadj	0.95(0.64-1.39)	0.7833	0.74(0.38-1.43)	0.3702
		Adj	0.81(0.54-1.21)	0.3025	0.83(0.42-1.66)	0.6059
	Business	Unadj	1.26(0.83-1.90)	0.2764	0.51(0.23-1.13)	0.0973
		Adj	1.05(0.68-1.63)	0.8124	0.76(0.33-1.75)	0.5150
	Service	Unadj	1.07(0.66-1.72)	0.7828	0.35(0.12-1.03)	0.0568
		Adj	0.88(0.52-1.48)	0.6317	0.67(0.22-2.09)	0.4908
	Self-employed /Professional	Unadj	1.11(0.63-1.95)	0.7237	0.81(0.29-2.25)	0.6832
		Adj	0.91(0.51-1.64)	0.7642	0.93(0.32-2.72)	0.8925
How often husband needs to stay away from you/family at a stretch for 6 months or more?	Sometimes	Unadj	0.50(0.22-1.15)	0.1036	0.70(0.17-2.87)	0.6219
		Adj	0.44(0.19-1.03)	0.0592	0.61(0.14-2.67)	0.5136
	Few times	Unadj	0.85(0.34-2.11)	0.7225	1.15(0.25-5.21)	0.8560
		Adj	0.67(0.26-1.74)	0.4100	1.17(0.24-5.67)	0.8428
	Never (ref=Most of the time)	Unadj	0.68(0.37-1.26)	0.2210	0.51(0.17-1.52)	0.2294
		Adj	0.55(0.29-1.06)	0.0752	0.46(0.15-1.47)	0.1902
Residential area (ref=Urban)	Rural	Unadj	1.16(0.92-1.46)	0.1981	**1.87(1.13-3.10)**	**0.0144**
		Adj	1.06(0.81-1.38)	0.6865	1.78(0.98-3.21)	0.0571

Table 4.l. Association of husband's sexual behavior with the quality of sexual relationship/experience with husband, as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	How is your sexual experience with your husband? (ref=Excellent)			
			Good/OK		Bad	
Categorical			OR (95%CI)	p value	OR (95%CI)	p value
Consumption of alcohol before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	0.97(0.71-1.31)	0.8391	**2.02(1.19-3.42)**	**0.0094**
		Adj	1.16(0.83-1.61)	0.3844	**2.44(1.36-4.37)**	**0.0028**
	Almost always	Unadj	0.99(0.43-2.26)	0.9828	**4.01(1.41-11.37)**	**0.0090**
		Adj	1.35(0.57-3.19)	0.4953	**3.60(1.17-11.12)**	**0.0259**
Husband had vaginal sex with you during pregnancy (ref=No)	Yes	Unadj	**1.86(1.35-2.57)**	**0.0002**	**2.15(1.20-3.88)**	**0.0105**
		Adj	**1.87(1.34-2.61)**	**0.0002**	**2.68(1.45-4.94)**	**0.0016**
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	**0.48(0.26-0.87)**	**0.0161**	**2.66(1.48-4.77)**	**0.0010**
		Adj	**0.50(0.27-0.93)**	**0.0295**	1.82(0.95-3.47)	0.0688
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	0.60(0.32-1.13)	0.1114	**2.37(1.21-4.62)**	**0.0116**
		Adj	0.63(0.32-1.21)	0.1633	1.55(0.75-3.19)	0.2335
You suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	**1.71(1.11-2.61)**	**0.0139**	**2.19(1.15-4.17)**	**0.0169**
		Adj	**1.84(1.18-2.87)**	**0.0069**	1.40(0.70-2.79)	0.3398
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	1.07(0.56-2.06)	0.8295	1.48(0.56-3.89)	0.4246
		Adj	1.14(0.58-2.24)	0.7075	0.74(0.27-2.06)	0.5678

Table 4.m. Association of husband's sexual behavior with the pattern of decision-making during sex regarding condom use before trying to have baby, as reported by the antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Before trying to have a baby, while having sex who took the decision if you should use a condom? (ref=self)			
			both together		husband	
Categorical			OR (95%CI)	p value	OR (95%CI)	p value
Consumption of alcohol before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	2.64(0.29-24.23)	0.3912	1.67(0.13-20.57)	0.6905
		Adj	4.36(0.23-83.59)	0.3287	2.96(0.11-81.43)	0.5217
	Almost always	Unadj	0.28(0.04-1.93)	0.1949	0.56(0.06-5.24)	0.6074
		Adj	0.07(0.00-1.62)	0.0974	0.32(0.01-10.07)	0.5181
Husband had vaginal sex with you during pregnancy (ref=No)	Vaginal sex.	Unadj	**0.08(0.01-0.75)**	**0.0265**	0.37(0.03-4.23)	0.4275
		Adj	**0.03(0.00-0.44)**	**0.0114**	0.83(0.03-20.35)	0.9079
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	1.17(0.25-5.40)	0.8405	1.08(0.18-6.54)	0.9333
		Adj	1.55(0.16-14.62)	0.7010	1.42(0.11-19.01)	0.7927
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	2.80(0.61-12.89)	0.1854	3.00(0.50-18.17)	0.2319
		Adj	6.99(0.76-64.18)	0.0858	3.51(0.28-43.64)	0.3292
You suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	**18.80(2.14-165.00)**	**0.0081**	**17.49(1.60-191.70)**	**0.0192**
		Adj	**54.19(2.13-1377.00)**	**0.0156**	31.52(0.96-1032.00)	0.0525
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	**10.21(1.18-88.38)**	**0.0349**	**12.60(1.19-133.90)**	**0.0356**
		Adj	**41.74(1.33-1312.00)**	**0.0339**	23.69(0.62-904.70)	0.0886

Table 5.a. Distribution of sexual behavior/experience/other risk factors among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
At what age (years) did you have sex for the first time?	<15	184	11.02	9.51	12.52
	15-18	878	52.57	50.18	54.97
	19-35	592	35.45	33.15	37.75
	>35	16	0.96	0.49	1.43
Did you first have sex before or after you were married?	After marriage.	1525	91.32	89.97	92.67
	Before marriage.	145	8.68	7.33	10.03
Did anyone ever force you to have sex?	Not been forced	594	35.57	33.27	37.87
	Forced by husband.	1024	61.32	58.98	63.66
	Forced by someone other than husband.	52	3.11	2.28	3.95
Has your husband or anyone else had anal sex with you?	No	731	43.77	41.39	46.15
	Yes	939	56.23	53.85	58.61
Did your husband/anyone else ever have sex with you after consuming alcohol?	No	990	59.28	56.92	61.64
	Yes	680	40.72	38.36	43.08
Before planning for a baby, did your husband use condoms during having sex with you?	No	1136	68.02	65.78	70.26
	Yes	534	31.98	29.74	34.22
Before planning for a baby, what is the reason behind not using condom while having sex	No idea what a condom is	144	12.68	10.74	14.61
	Not required for sex with spouse	601	52.90	50.00	55.81
	Non availability of condom when required	92	8.10	6.51	9.69
	Reduced sexual pleasure when using condom	180	15.85	13.72	17.97
	Cost of condom	119	10.48	8.69	12.26
Do you have sexual relationship with any man other than your husband?	No	1589	95.15	94.12	96.18
	Yes	81	4.85	3.82	5.88
How many male sex partners apart from your husband do you have?	Have one partner.	65	80.25	71.39	89.11
	Have more than one.	16	19.75	10.89	28.61
When you had sex with a male partner other than your husband, were you offered money?	No	33	40.74	29.81	51.67
	Yes	48	59.26	48.33	70.19
When you had sex with a male partner other than your husband, did you accept any gifts?	No	35	43.21	32.19	54.23
	Yes	46	56.79	45.77	67.81
When you had sex with a male partner in exchange for money, did he use a condom?	Always	10	12.35	5.03	19.66
	Sometimes	15	18.52	9.88	27.16
	Never	56	69.14	58.86	79.41
When you had sex with a male partner other than your husband, did he use a condom?	Always	9	11.11	4.12	18.10
	Sometimes	12	14.81	6.91	22.72
	Never	60	74.07	64.32	83.82
Do you suspect that the male partner with whom you have sex in exchange for money has sexual relations with other female sex workers?	No	38	46.91	35.81	58.02
	Yes	43	53.09	41.98	64.19
In the last 6 months, how many times have you taken an injection from a nurse/compounder/any health worker?	Never	62	3.71	2.80	4.62
	1 to 2 times	1442	86.35	84.70	88.00
	More than two times	166	9.94	8.50	11.38

Table 5b. Distribution of sexual behavior/experience/other risk factors among recruited antenatal care attendees who were interviewed by an interviewer (N=176), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CI	
				Lower	Upper
At what age did you have sex for the first time?	<15	9	5.11	1.83	8.40
	15-18	96	54.55	47.12	61.97
	19-35	69	39.20	31.92	46.49
	>35	2	1.14	0.00	2.72
Did you first have sex before or after you were married?	After marriage.	169	96.02	93.11	98.94
	Before marriage.	7	3.98	1.06	6.89
Did anyone ever force you to have sex?	Not been forced	114	64.77	57.65	71.90
	Forced by husband.	60	34.09	27.02	41.16
	Forced by someone other than husband.	2	1.14	0.00	2.72
Has your husband or anyone else had anal sex with you?	No	126	71.59	64.86	78.32
	Yes	50	28.41	21.68	35.14
Did your husband/anyone else ever have sex with you after consuming alcohol?	No	122	69.32	62.44	76.20
	Yes	54	30.68	23.80	37.56
Before planning for a baby, did your husband use condoms during having sex with you?	No	128	72.73	66.08	79.37
	Yes	48	27.27	20.63	33.92
Before planning for a baby, what is the reason behind not using condom while having sex	No idea what a condom is	27	21.09	13.93	28.26
	Not required for sex with spouse	71	55.47	46.74	64.20
	Non availability of condom when required	3	2.34	0.00	5.00
	Reduced sexual pleasure when using condom	19	14.84	8.60	21.09
	Cost of condom	8	6.25	2.00	10.50
Do you have sexual relationship with any man other than your husband?	No	176	100.00	-	-
	Yes	0	0.00	-	-
In the last 6 months, how many times have you taken an injection from a nurse/compounder/any health worker?	Never	11	6.25	2.64	9.86
	1 to 2 times	145	82.39	76.70	88.07
	More than two times	20	11.36	6.63	16.10

Table 5.c. Association of socio-demographic factors with the age at first sex among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Age in years at first sex (ref=<15)			
			15-18		19-35	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	0.95(0.91-1.00)	0.0525	**1.14(1.09-1.20)**	**<.0001**
		Adj	0.95(0.88-1.02)	0.1451	0.99(0.91-1.07)	0.7580
Age at marriage		Unadj	**1.49(1.36-1.64)**	**<.0001**	**3.02(2.68-3.41)**	**<.0001**
		Adj	**1.46(1.33-1.61)**	**<.0001**	**2.81(2.48-3.19)**	**<.0001**
Husband's age		Unadj	0.99(0.96-1.02)	0.4588	**1.07(1.04-1.11)**	**<.0001**
		Adj	1.01(0.97-1.06)	0.5790	1.01(0.96-1.07)	0.7160
Per capita family income		Unadj	1.00(1.00-1.00)	0.1613	**1.00(1.00-1.00)**	**0.0076**
		Adj	1.00(1.00-1.00)	0.9322	1.00(1.00-1.00)	0.8493
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	0.86(0.62-1.19)	0.3553	**0.44(0.31-0.61)**	**<.0001**
		Adj	0.77(0.52-1.15)	0.1996	0.78(0.49-1.25)	0.3018
Educational level (ref=No education)	Primary	Unadj	1.97(0.97-4.03)	0.0623	1.45(0.69-3.06)	0.3284
		Adj	2.18(0.99-4.81)	0.0540	1.91(0.69-5.25)	0.2106
	High-school	Unadj	**3.29(1.88-5.76)**	**<.0001**	**2.05(1.15-3.65)**	**0.0154**
		Adj	**2.25(1.17-4.34)**	**0.0149**	1.79(0.79-4.07)	0.1661
	Graduation and above	Unadj	**14.06(1.77-111.50)**	**0.0124**	**81.61(10.58-629.50)**	**<.0001**
		Adj	5.25(0.63-43.85)	0.1259	**10.90(1.23-96.42)**	**0.0317**
Husband's educational level (ref=No education)	Primary	Unadj	0.88(0.52-1.50)	0.6456	0.83(0.46-1.50)	0.5380
		Adj	0.74(0.41-1.35)	0.3279	1.14(0.53-2.44)	0.7369
	High-school	Unadj	1.47(0.91-2.39)	0.1162	**2.14(1.26-3.63)**	**0.0048**
		Adj	0.98(0.56-1.71)	0.9304	1.46(0.72-2.94)	0.2900
	Graduation and above	Unadj	2.09(0.89-4.90)	0.0906	**6.09(2.55-14.49)**	**<.0001**
		Adj	1.00(0.39-2.59)	0.9933	0.89(0.29-2.70)	0.8402
Currently working?	Yes (ref=No)	Unadj	0.86(0.37-2.00)	0.7322	1.44(0.63-3.33)	0.3881
		Adj	1.24(0.48-3.17)	0.6592	1.06(0.33-3.38)	0.9196
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	1.38(0.85-2.24)	0.1870	1.06(0.63-1.76)	0.8344
		Adj	1.13(0.66-1.92)	0.6544	0.64(0.34-1.20)	0.1651
	Business	Unadj	**1.88(1.07-3.31)**	**0.0285**	**2.07(1.15-3.74)**	**0.0154**
		Adj	1.31(0.70-2.46)	0.3975	0.86(0.41-1.79)	0.6889
	Service	Unadj	1.65(0.78-3.49)	0.1910	**4.13(1.95-8.73)**	**0.0002**
		Adj	1.12(0.49-2.57)	0.7814	1.05(0.42-2.66)	0.9154
	Self-employed /Professional	Unadj	1.26(0.61-2.61)	0.5256	1.19(0.55-2.55)	0.6567
		Adj	1.02(0.46-2.24)	0.9704	0.88(0.35-2.23)	0.7871
Due to work, husband stays away from you/family at a stretch for ≥6 months?	Sometimes	Unadj	0.58(0.17-1.97)	0.3809	0.38(0.11-1.38)	0.1422
		Adj	0.52(0.12-2.16)	0.3657	0.31(0.06-1.57)	0.1588
	Few times	Unadj	0.59(0.15-2.35)	0.4546	0.60(0.15-2.47)	0.4796
		Adj	0.59(0.12-2.88)	0.5123	0.46(0.07-2.83)	0.4012
	Never (ref= Most of the time)	Unadj	0.74(0.26-2.16)	0.5876	0.66(0.22-1.95)	0.4468
		Adj	0.64(0.18-2.28)	0.4915	0.53(0.14-2.10)	0.3688
Residential area (ref=Urban)	Rural	Unadj	1.29(0.93-1.79)	0.1260	**0.65(0.46-0.91)**	**0.0121**
		Adj	1.46(0.99-2.17)	0.0586	1.36(0.86-2.17)	0.1929

Table 5.d. Association of socio-demographic factors with having first sex before marriage among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	Had first sex before marriage? (ref=No)	
			Yes	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	0.99(0.95-1.04)	0.8165
		Adj	1.01(0.94-1.09)	0.7386
Age at marriage		Unadj	1.02(0.97-1.08)	0.4464
		Adj	0.99(0.92-1.07)	0.8039
Husband's age		Unadj	0.98(0.95-1.01)	0.2704
		Adj	0.95(0.91-1.00)	0.0602
Per capita family income		Unadj	**1.03(1.02-1.04)**	**0.0051**
		Adj	**1.03(1.01-1.05)**	**0.0247**
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**0.54(0.38-0.76)**	**0.0004**
		Adj	**0.57(0.38-0.86)**	**0.0072**
Educational level (ref=No education)	Primary	Unadj	0.76(0.34-1.71)	0.5099
		Adj	0.83(0.36-1.91)	0.6634
	High-school	Unadj	**0.52(0.28-0.99)**	**0.0492**
		Adj	0.56(0.28-1.12)	0.1012
	Graduation and above	Unadj	1.16(0.54-2.49)	0.7089
		Adj	1.12(0.47-2.70)	0.7998
Husband's educational level (ref=No education)	Primary	Unadj	0.78(0.41-1.49)	0.4505
		Adj	0.84(0.42-1.65)	0.6084
	High-school	Unadj	0.80(0.46-1.39)	0.4342
		Adj	0.78(0.43-1.42)	0.4136
	Graduation and above	Unadj	1.40(0.71-2.75)	0.3353
		Adj	1.10(0.48-2.50)	0.8250
Currently working?	Yes (ref=No)	Unadj	1.00(0.43-2.36)	0.9969
		Adj	0.76(0.30-1.96)	0.5753
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	1.00(0.57-1.77)	0.9904
		Adj	1.11(0.61-1.99)	0.7364
	Business	Unadj	0.83(0.44-1.57)	0.5731
		Adj	0.77(0.39-1.52)	0.4550
	Service	Unadj	1.29(0.65-2.56)	0.4671
		Adj	0.91(0.43-1.94)	0.8092
	Self-employed /Professional	Unadj	0.80(0.33-1.93)	0.6133
		Adj	0.83(0.34-2.05)	0.6883
Due to work, husband stays away from you/family at a stretch for ≥6 months?	Sometimes	Unadj	1.30(0.31-5.44)	0.7218
		Adj	1.26(0.29-5.38)	0.7585
	Few times	Unadj	1.09(0.21-5.69)	0.9178
		Adj	1.08(0.20-5.78)	0.9309
	Never (ref=Most of the time)	Unadj	1.57(0.48-5.10)	0.4563
		Adj	1.66(0.50-5.53)	0.4059
Residential area (ref=Urban)	Rural	Unadj	**0.58(0.41-0.82)**	**0.0020**
		Adj	0.74(0.50-1.10)	0.1376

Table 5.e. Association of socio-demographic factors with ever being forced to have sex among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	Ever had forced sex (ref=No)			
			Yes, by husband		Yes by someone else	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	0.97(0.95-1.00)	0.0502	1.00(0.93-1.08)	0.8959
		Adj	1.04(1.00-1.09)	0.0566	1.04(0.93-1.16)	0.4957
Age at marriage		Unadj	**0.89(0.86-0.93)**	**<.0001**	**0.85(0.76-0.95)**	**0.0044**
		Adj	**0.93(0.89-0.98)**	**0.0023**	**0.88(0.77-0.99)**	**0.0347**
Husband's age		Unadj	0.98(0.96-1.00)	0.0624	1.02(0.97-1.07)	0.4582
		Adj	0.99(0.96-1.02)	0.4801	1.03(0.96-1.11)	0.4263
Per capita family income		Unadj	**1.04(1.03-1.05)**	**<.0001**	1.00(0.99-1.01)	0.3699
		Adj	**1.03(1.01-1.06)**	**0.0318**	1.00(0.98-1.01)	0.5589
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**1.47(1.20-1.80)**	**0.0002**	1.34(0.76-2.36)	0.3191
		Adj	0.96(0.75-1.24)	0.7771	0.74(0.38-1.45)	0.3793
Educational level (ref=No education)	Primary	Unadj	**2.22(1.26-3.90)**	**0.0056**	2.37(0.67-8.32)	0.1791
		Adj	**2.02(1.12-3.64)**	**0.0194**	1.87(0.51-6.89)	0.3488
	High-school	Unadj	**1.83(1.18-2.83)**	**0.0072**	0.88(0.30-2.59)	0.8145
		Adj	**1.91(1.18-3.07)**	**0.0079**	0.94(0.29-3.02)	0.9149
	Graduation and above	Unadj	**0.41(0.23-0.71)**	**0.0016**	0.33(0.07-1.53)	0.1554
		Adj	0.65(0.35-1.22)	0.1806	0.75(0.14-4.13)	0.7385
Husband's educational level (ref=No education)	Primary	Unadj	**1.58(1.05-2.39)**	**0.0295**	0.66(0.23-1.94)	0.4554
		Adj	1.34(0.86-2.08)	0.1943	0.59(0.19-1.82)	0.3607
	High-school	Unadj	0.89(0.63-1.26)	0.5167	0.63(0.28-1.44)	0.2763
		Adj	0.97(0.66-1.43)	0.8851	0.90(0.36-2.25)	0.8277
	Graduation and above	Unadj	**0.37(0.24-0.58)**	**<.0001**	0.31(0.09-1.09)	0.0676
		Adj	0.71(0.41-1.21)	0.2042	0.90(0.22-3.76)	0.8884
Currently working?	Yes (ref=No)	Unadj	**0.43(0.26-0.70)**	**0.0007**	0.59(0.14-2.50)	0.4693
		Adj	**0.56(0.32-0.98)**	**0.0410**	0.56(0.12-2.61)	0.4616
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.86(0.60-1.25)	0.4309	0.73(0.33-1.62)	0.4358
		Adj	0.95(0.65-1.40)	0.8005	0.86(0.37-1.97)	0.7154
	Business	Unadj	**0.56(0.38-0.83)**	**0.0037**	**0.16(0.05-0.51)**	**0.0019**
		Adj	0.73(0.48-1.11)	0.1379	**0.17(0.05-0.60)**	**0.0061**
	Service	Unadj	**0.30(0.20-0.48)**	**<.0001**	**0.20(0.06-0.70)**	**0.0113**
		Adj	**0.54(0.33-0.87)**	**0.0124**	0.35(0.09-1.30)	0.1157
	Self-employed /Professional	Unadj	**0.40(0.24-0.66)**	**0.0004**	**0.20(0.04-0.96)**	**0.0441**
		Adj	**0.45(0.26-0.76)**	**0.0028**	0.22(0.04-1.10)	0.0646
Due to work, husband stays away from you/family at a stretch for ≥6 months?	Sometimes	Unadj	0.87(0.41-1.86)	0.7235	0.28(0.05-1.68)	0.1617
		Adj	0.80(0.36-1.79)	0.5899	0.22(0.04-1.42)	0.1119
	Few times	Unadj	1.03(0.43-2.45)	0.9426	0.53(0.08-3.35)	0.5026
		Adj	1.34(0.53-3.39)	0.5439	0.71(0.11-4.79)	0.7281
	Never (ref=Most of the time)	Unadj	0.88(0.48-1.63)	0.6917	0.33(0.11-1.03)	0.0559
		Adj	0.93(0.48-1.77)	0.8145	0.35(0.11-1.16)	0.0860
Residential area	Rural (ref=Urban)	Unadj	**1.81(1.48-2.22)**	**<.0001**	**2.52(1.35-4.68)**	**0.0036**
		Adj	**1.52(1.19-1.94)**	**0.0008**	**2.57(1.26-5.25)**	**0.0098**

Table 5.f. Association of socio-demographic factors with ever having anal sex among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	Ever had anal sex (ref=No)	
			Yes	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	0.98(0.96-1.01)	0.2027
		Adj	1.03(0.99-1.07)	0.1954
Age at marriage		Unadj	**0.93(0.90-0.96)**	**<.0001**
		Adj	0.98(0.94-1.02)	0.2481
Husband's age		Unadj	**0.98(0.96-0.99)**	**0.0393**
		Adj	0.98(0.96-1.01)	0.2115
Per capita family income		Unadj	**1.02(1.01-1.03)**	**0.0020**
		Adj	1.00(0.99-1.01)	0.4160
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**1.53(1.26-1.86)**	**<.0001**
		Adj	1.22(0.97-1.54)	0.0949
Educational level (ref=No education)	Primary	Unadj	1.55(0.89-2.69)	0.1202
		Adj	1.46(0.83-2.59)	0.1902
	High-school	Unadj	0.90(0.58-1.39)	0.6391
		Adj	0.92(0.58-1.46)	0.7080
	Graduation and above	Unadj	**0.26(0.15-0.46)**	**<.0001**
		Adj	**0.34(0.18-0.62)**	**0.0005**
Husband's educational level (ref=No education)	Primary	Unadj	0.93(0.62-1.39)	0.7159
		Adj	0.94(0.62-1.43)	0.7712
	High-school	Unadj	**0.49(0.35-0.69)**	**<.0001**
		Adj	**0.62(0.43-0.91)**	**0.0137**
	Graduation and above	Unadj	**0.33(0.21-0.52)**	**<.0001**
		Adj	0.67(0.40-1.12)	0.1252
Currently working?	Yes (ref=No)	Unadj	0.75(0.46-1.21)	0.2360
		Adj	0.94(0.55-1.60)	0.8113
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	**0.66(0.47-0.94)**	**0.0209**
		Adj	0.74(0.52-1.06)	0.0991
	Business	Unadj	**0.42(0.29-0.62)**	**<.0001**
		Adj	**0.57(0.39-0.85)**	**0.0057**
	Service	Unadj	**0.38(0.25-0.58)**	**<.0001**
		Adj	0.69(0.43-1.09)	0.1133
	Self-employed /Professional	Unadj	**0.46(0.28-0.76)**	**0.0021**
		Adj	**0.53(0.32-0.89)**	**0.0157**
Due to work, husband stays away from you/family at a stretch for ≥6 months?	Sometimes	Unadj	0.78(0.38-1.61)	0.4958
		Adj	0.78(0.37-1.66)	0.5157
	Few times	Unadj	0.52(0.23-1.18)	0.1167
		Adj	0.60(0.26-1.42)	0.2461
	Never (ref=Most of the time)	Unadj	0.70(0.39-1.25)	0.2218
		Adj	0.77(0.42-1.42)	0.4111
Residential area	Rural (ref=Urban)	Unadj	**1.50(1.24-1.83)**	**<.0001**
		Adj	**1.35(1.07-1.70)**	**0.0123**

Table 5.g. Association of socio-demographic factors with ever having sex with someone who consumed alcohol among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	Ever anyone had sex with you after consuming alcohol? (ref=No)	
			Yes	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.01(0.98-1.03)	0.6101
		Adj	**1.06(1.02-1.11)**	**0.0056**
Age at marriage		Unadj	**0.95(0.92-0.98)**	**0.0024**
		Adj	**0.92(0.88-0.96)**	**0.0003**
Husband's age		Unadj	1.00(0.98-1.01)	0.6916
		Adj	**0.95(0.92-0.98)**	**0.0003**
Per capita family income		Unadj	1.00(0.99-1.01)	0.4905
		Adj	1.00(0.98-1.01)	0.7851
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**0.43(0.35-0.53)**	**<.0001**
		Adj	**0.36(0.28-0.45)**	**<.0001**
Educational level (ref=No education)	Primary	Unadj	1.14(0.66-1.94)	0.6429
		Adj	1.30(0.73-2.30)	0.3771
	High-school	Unadj	**0.47(0.30-0.72)**	**0.0006**
		Adj	**0.58(0.36-0.94)**	**0.0277**
	Graduation and above	Unadj	**0.24(0.13-0.42)**	**<.0001**
		Adj	**0.31(0.16-0.59)**	**0.0004**
Husband's educational level (ref=No education)	Primary	Unadj	1.26(0.86-1.83)	0.2303
		Adj	**1.62(1.07-2.47)**	**0.0231**
	High-school	Unadj	0.94(0.68-1.30)	0.7180
		Adj	1.08(0.74-1.58)	0.6893
	Graduation and above	Unadj	**0.46(0.29-0.74)**	**0.0012**
		Adj	0.61(0.35-1.06)	0.0773
Currently working?	Yes (ref=No)	Unadj	0.67(0.40-1.12)	0.1294
		Adj	0.77(0.43-1.35)	0.3546
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.76(0.55-1.05)	0.0967
		Adj	1.00(0.70-1.42)	0.9927
	Business	Unadj	**0.64(0.45-0.91)**	**0.0130**
		Adj	0.89(0.60-1.31)	0.5501
	Service	Unadj	0.69(0.46-1.05)	0.0833
		Adj	0.80(0.50-1.28)	0.3574
	Self-employed /Professional	Unadj	0.68(0.42-1.09)	0.1105
		Adj	0.87(0.51-1.46)	0.5877
Due to work, husband stays away from you/family at a stretch for ≥6 months? (ref=Most of the time)	Sometimes	Unadj	1.21(0.59-2.46)	0.6083
		Adj	1.32(0.61-2.86)	0.4868
	Few times	Unadj	1.62(0.73-3.61)	0.2399
		Adj	1.87(0.78-4.46)	0.1595
	Never	Unadj	1.05(0.59-1.85)	0.8787
		Adj	1.28(0.69-2.40)	0.4361
Residential area	Rural (ref=Urban)	Unadj	**0.59(0.48-0.72)**	**<.0001**
		Adj	**0.78(0.62-0.99)**	**0.0429**

Table 5.h. Association of socio-demographic factors with husband using condom while having sex (before planning for a baby) with the respondent among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables		OR	Before planning for a baby, did your husband use condoms during having sex with you? (ref=No)	
			Yes	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	0.98(0.95-1.01)	0.1729
		Adj	1.00(0.95-1.04)	0.8716
Age at marriage		Unadj	**0.96(0.93-0.99)**	**0.0286**
		Adj	0.97(0.92-1.01)	0.1260
Husband's age		Unadj	**0.98(0.96-0.99)**	**0.0499**
		Adj	0.99(0.96-1.02)	0.5494
Per capita family income		Unadj	1.00(0.98-1.01)	0.8628
		Adj	1.00(0.97-1.02)	0.8462
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**1.42(1.15-1.75)**	**0.0009**
		Adj	**1.52(1.19-1.94)**	**0.0009**
Educational level (ref=No education)	Primary	Unadj	1.19(0.69-2.06)	0.5363
		Adj	1.07(0.61-1.89)	0.8155
	High-school	Unadj	0.85(0.54-1.34)	0.4919
		Adj	0.81(0.50-1.30)	0.3805
	Graduation and above	Unadj	0.94(0.54-1.65)	0.8326
		Adj	1.01(0.55-1.89)	0.9646
Husband's educational level (ref=No education)	Primary	Unadj	0.76(0.51-1.12)	0.1608
		Adj	0.74(0.49-1.12)	0.1527
	High-school	Unadj	0.73(0.53-1.03)	0.0708
		Adj	0.81(0.56-1.18)	0.2728
	Graduation and above	Unadj	0.93(0.59-1.45)	0.7449
		Adj	1.02(0.60-1.71)	0.9523
Currently working?	Yes (ref=No)	Unadj	1.22(0.74-2.01)	0.4395
		Adj	1.23(0.72-2.09)	0.4532
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.81(0.58-1.14)	0.2299
		Adj	0.82(0.57-1.16)	0.2569
	Business	Unadj	0.80(0.55-1.16)	0.2323
		Adj	0.86(0.58-1.28)	0.4612
	Service	Unadj	0.87(0.57-1.34)	0.5276
		Adj	0.99(0.62-1.58)	0.9600
	Self-employed /Professional	Unadj	0.75(0.45-1.24)	0.2638
		Adj	0.77(0.46-1.30)	0.3324
Due to work, husband stays away from you/family at a stretch for ≥6 months?	Sometimes	Unadj	0.96(0.46-2.03)	0.9199
		Adj	0.91(0.42-1.97)	0.8124
	Few times	Unadj	0.94(0.40-2.18)	0.8799
		Adj	0.83(0.34-2.00)	0.6728
	Never (ref=Most of the time)	Unadj	0.94(0.52-1.69)	0.8278
		Adj	0.91(0.49-1.68)	0.7541
Residential area	Rural (ref=Urban)	Unadj	1.03(0.84-1.27)	0.7722
		Adj	0.86(0.68-1.10)	0.2399

Table 5.i. Association of socio-demographic factors with reason for husband not using condom while having sex with the respondent (before planning for a baby) among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Before planning for a baby, reason for husband not using condom while having sex with you (ref=No idea what a condom is)			
			Not required for sex with spouse		Non-availability of condom when required	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	**1.05(1.01-1.11)**	**0.0419**	1.04(0.97-1.12)	0.2810
		Adj	1.01(0.93-1.10)	0.7316	1.10(0.98-1.24)	0.1130
Age at marriage		Unadj	1.01(0.95-1.07)	0.8139	0.96(0.88-1.05)	0.4198
		Adj	**0.92(0.85-0.99)**	**0.0358**	0.89(0.80-1.00)	0.0528
Husband's age		Unadj	**1.06(1.03-1.10)**	**0.0010**	1.02(0.97-1.07)	0.4642
		Adj	**1.08(1.02-1.14)**	**0.0098**	1.00(0.92-1.08)	0.9226
Per capita family income		Unadj	1.00(0.99-1.01)	0.3810	1.02(0.97-1.07)	0.8351
		Adj	1.00(0.98-1.01)	0.8092	1.03(0.96-1.11)	0.5466
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**0.65(0.45-0.94)**	**0.0222**	0.73(0.43-1.24)	0.2467
		Adj	0.77(0.50-1.19)	0.2325	0.58(0.31-1.08)	0.0853
Educational level (ref=No education)	Primary	Unadj	2.15(0.85-5.44)	0.1045	1.72(0.45-6.64)	0.4290
		Adj	**2.71(1.04-7.09)**	**0.0423**	2.81(0.66-12.03)	0.1637
	High-school	Unadj	**3.12(1.53-6.37)**	**0.0018**	1.90(0.66-5.50)	0.2362
		Adj	**4.92(2.22-10.91)**	**<.0001**	**4.03(1.18-13.81)**	**0.0263**
	Graduation and above	Unadj	**4.81(1.76-13.19)**	**0.0023**	1.75(0.39-7.95)	0.4687
		Adj	**7.09(2.32-21.67)**	**0.0006**	4.41(0.80-24.27)	0.0877
Husband's educational level (ref=No education)	Primary	Unadj	1.19(0.59-2.38)	0.6320	1.12(0.45-2.82)	0.8039
		Adj	1.19(0.56-2.51)	0.6482	0.92(0.34-2.47)	0.8668
	High-school	Unadj	1.56(0.85-2.84)	0.1480	0.82(0.37-1.85)	0.6371
		Adj	1.34(0.69-2.62)	0.3846	0.74(0.30-1.82)	0.5099
	Graduation and above	Unadj	**5.17(1.78-15.00)**	**0.0025**	0.85(0.17-4.26)	0.8432
		Adj	**3.91(1.21-12.63)**	**0.0227**	0.84(0.14-4.89)	0.8476
Currently working?	Yes (ref=No)	Unadj	4.92(0.66-36.97)	0.1214	6.50(0.71-59.07)	0.0965
		Adj	4.86(0.63-37.44)	0.1290	4.22(0.42-42.56)	0.2221
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.87(0.47-1.63)	0.6733	1.53(0.59-4.00)	0.3856
		Adj	0.66(0.34-1.28)	0.2147	1.24(0.45-3.36)	0.6786
	Business	Unadj	1.21(0.61-2.39)	0.5833	1.04(0.35-3.05)	0.9446
		Adj	0.73(0.35-1.53)	0.4055	0.81(0.26-2.52)	0.7124
	Service	Unadj	1.49(0.66-3.36)	0.3417	0.99(0.26-3.70)	0.9869
		Adj	0.84(0.34-2.05)	0.6991	0.69(0.17-2.81)	0.6087
	Self-employed /Professional	Unadj	1.82(0.65-5.08)	0.2513	2.86(0.71-11.44)	0.1381
		Adj	1.22(0.42-3.55)	0.7146	2.23(0.53-9.28)	0.2722
Due to work, husband stays away from you/family at a stretch for ≥6 months?	Sometimes	Unadj	0.69(0.20-2.36)	0.5593	**0.07(0.01-0.74)**	**0.0268**
		Adj	0.70(0.19-2.55)	0.5921	**0.06(0.01-0.62)**	**0.0186**
	Few times	Unadj	1.42(0.32-6.27)	0.6461	0.62(0.09-4.22)	0.6297
		Adj	1.35(0.28-6.41)	0.7054	0.53(0.07-3.82)	0.5319
	Never (ref=Most of the time)	Unadj	1.47(0.53-4.13)	0.4605	0.56(0.16-1.88)	0.3447
		Adj	1.47(0.49-4.41)	0.4964	0.45(0.13-1.64)	0.2270
Residential area	Rural (ref=Urban)	Unadj	0.83(0.57-1.20)	0.3146	0.98(0.57-1.68)	0.9330
		Adj	0.89(0.57-1.38)	0.5896	1.02(0.54-1.91)	0.9627

Variables	Response categories	OR	Before planning for a baby, reason for husband not using condom while having sex with you (ref=No idea what a condom is)			
			Reduced sexual pleasure when using condom		Cost of condom	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	**1.08(1.02-1.14)**	**0.0128**	1.04(0.97-1.11)	0.2462
		Adj	1.09(0.99-1.20)	0.0954	1.05(0.94-1.17)	0.3955
Age at marriage		Unadj	1.01(0.94-1.08)	0.8747	**0.90(0.83-0.98)**	**0.0207**
		Adj	**0.87(0.79-0.96)**	**0.0055**	**0.88(0.79-0.98)**	**0.0179**
Husband's age		Unadj	**1.05(1.01-1.10)**	**0.0251**	1.03(0.99-1.08)	0.1741
		Adj	1.05(0.98-1.12)	0.1782	1.03(0.96-1.11)	0.3527
Per capita family income		Unadj	1.00(0.99-1.01)	0.2314	**1.03(1.02-1.04)**	**0.0491**
		Adj	1.00(0.98-1.01)	0.6052	1.02(0.97-1.07)	0.3242
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	1.06(0.68-1.65)	0.7971	1.17(0.71-1.91)	0.5400
		Adj	1.51(0.88-2.58)	0.1346	1.16(0.64-2.09)	0.6201
Educational level (ref=No education)	Primary	Unadj	3.59(0.81-16.01)	0.0938	1.08(0.39-2.96)	0.8857
		Adj	4.57(1.00-20.94)	0.0505	1.17(0.41-3.37)	0.7720
	High-school	Unadj	**6.12(1.72-21.84)**	**0.0052**	0.63(0.30-1.36)	0.2425
		Adj	**10.16(2.67-38.60)**	**0.0007**	0.86(0.36-2.07)	0.7410
	Graduation and above	Unadj	**14.00(3.18-61.60)**	**0.0005**	**0.10(0.01-0.93)**	**0.0424**
		Adj	**21.68(4.38-107.30)**	**0.0002**	0.20(0.02-1.96)	0.1667
Husband's educational level (ref=No education)	Primary	Unadj	1.55(0.62-3.86)	0.3519	0.99(0.44-2.19)	0.9722
		Adj	1.38(0.52-3.65)	0.5138	1.22(0.51-2.90)	0.6525
	High-school	Unadj	1.96(0.88-4.39)	0.1014	**0.48(0.24-0.98)**	**0.0447**
		Adj	1.64(0.68-3.95)	0.2728	0.71(0.32-1.58)	0.3981
	Graduation and above	Unadj	**6.80(1.98-23.31)**	**0.0023**	0.31(0.05-1.79)	0.1905
		Adj	**4.27(1.09-16.82)**	**0.0377**	0.65(0.10-4.14)	0.6451
Currently working?	Yes (ref=No)	Unadj	**11.13(1.44-86.10)**	**0.0210**	7.59(0.90-63.95)	0.0623
		Adj	7.92(0.98-63.97)	0.0523	7.49(0.84-66.84)	0.0712
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.89(0.42-1.92)	0.7729	0.72(0.33-1.56)	0.4069
		Adj	0.60(0.26-1.35)	0.2139	0.74(0.33-1.68)	0.4694
	Business	Unadj	1.20(0.53-2.75)	0.6611	0.64(0.27-1.53)	0.3181
		Adj	0.69(0.28-1.70)	0.4177	0.75(0.29-1.94)	0.5567
	Service	Unadj	1.70(0.65-4.45)	0.2828	0.41(0.12-1.34)	0.1393
		Adj	0.86(0.30-2.51)	0.7858	0.59(0.16-2.10)	0.4145
	Self-employed /Professional	Unadj	1.91(0.58-6.29)	0.2861	1.18(0.33-4.17)	0.8013
		Adj	1.36(0.39-4.72)	0.6286	1.28(0.34-4.78)	0.7107
Due to work, husband stays away from you/family at a stretch for ≥6 months?	Sometimes	Unadj	1.25(0.23-6.65)	0.7937	0.58(0.12-2.75)	0.4958
		Adj	1.08(0.19-6.14)	0.9331	0.72(0.13-4.01)	0.7096
	Few times	Unadj	2.92(0.44-19.23)	0.2660	0.25(0.02-3.10)	0.2805
		Adj	2.00(0.27-14.59)	0.4931	0.38(0.03-5.16)	0.4674
	Never (ref=Most of the time)	Unadj	2.18(0.51-9.30)	0.2919	0.86(0.24-3.06)	0.8179
		Adj	1.80(0.40-8.17)	0.4450	1.35(0.32-5.60)	0.6816
Residential area	Rural (ref=Urban)	Unadj	0.72(0.46-1.12)	0.1448	1.02(0.62-1.69)	0.9301
		Adj	**0.55(0.32-0.94)**	**0.0299**	0.90(0.50-1.64)	0.7344

Table 5.j. Association of socio-demographic factors with having male sex partner other than husband among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Have male sex partner other than husband (ref=No)	
			Yes	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	**1.07(1.01-1.13)**	**0.0141**
		Adj	**1.13(1.03-1.24)**	**0.0115**
Age at marriage		Unadj	**0.88(0.81-0.96)**	**0.0053**
		Adj	0.95(0.87-1.04)	0.2814
Husband's age		Unadj	1.01(0.97-1.05)	0.6851
		Adj	0.95(0.89-1.01)	0.0990
Per capita family income		Unadj	**1.02(1.01-1.03)**	**0.0151**
		Adj	1.02(0.98-1.03)	0.6936
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**1.74(1.09-2.79)**	**0.0200**
		Adj	1.48(0.84-2.60)	0.1708
Educational level (ref=No education)	Primary	Unadj	0.61(0.30-1.21)	0.1585
		Adj	0.55(0.26-1.15)	0.1130
	High-school	Unadj	**0.12(0.07-0.23)**	**<.0001**
		Adj	**0.13(0.07-0.27)**	**<.0001**
	Graduation and above	Unadj	-	-
		Adj	-	-
Husband's educational level (ref=No education)	Primary	Unadj	0.53(0.28-1.00)	0.0514
		Adj	0.84(0.42-1.70)	0.6345
	High-school	Unadj	**0.28(0.16-0.48)**	**<.0001**
		Adj	0.77(0.40-1.47)	0.4262
	Graduation and above	Unadj	**0.05(0.01-0.34)**	**0.0028**
		Adj	0.26(0.03-2.15)	0.2129
Currently working?	Yes (ref=No)	Unadj	1.94(0.81-4.62)	0.1355
		Adj	1.72(0.64-4.66)	0.2834
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.61(0.34-1.11)	0.1029
		Adj	0.85(0.45-1.62)	0.6316
	Business	Unadj	**0.24(0.10-0.55)**	**0.0007**
		Adj	0.51(0.21-1.24)	0.1386
	Service	Unadj	**0.17(0.05-0.58)**	**0.0049**
		Adj	0.47(0.13-1.76)	0.2640
	Self-employed /Professional	Unadj	0.90(0.39-2.12)	0.8175
		Adj	1.41(0.55-3.61)	0.4718
Due to work, husband stays away from you/family at a stretch for ≥6 months?	Sometimes	Unadj	1.99(0.39-10.25)	0.4122
		Adj	2.41(0.39-14.87)	0.3438
	Few times	Unadj	1.67(0.27-10.46)	0.5836
		Adj	2.45(0.33-18.11)	0.3813
	Never (ref=Most of the time)	Unadj	1.21(0.29-5.06)	0.7979
		Adj	1.71(0.34-8.44)	0.5131
Residential area	Rural (ref=Urban)	Unadj	1.33(0.83-2.13)	0.2320
		Adj	1.39(0.77-2.49)	0.2714

Table 5.k. Association of socio-demographic factors with ever being offered money for having sex with male partner other than husband among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	For sex with male partner other than husband were you ever offered money? (ref=No)	
			Yes	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.01(0.89-1.14)	0.9173
		Adj	0.89(0.70-1.13)	0.3278
Age at marriage		Unadj	0.99(0.84-1.17)	0.9166
		Adj	1.09(0.87-1.37)	0.4520
Husband's age		Unadj	1.04(0.96-1.14)	0.3407
		Adj	1.11(0.95-1.29)	0.1920
Per capita family income		Unadj	**0.98(0.97-0.99)**	**0.0300**
		Adj	0.98(0.94-1.02)	0.0911
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	1.14(0.45-2.89)	0.7782
		Adj	0.60(0.13-2.73)	0.5090
Educational level (ref=No education)	Primary	Unadj	0.50(0.12-2.08)	0.3373
		Adj	0.26(0.03-2.14)	0.2120
	High-school	Unadj	**0.24(0.07-0.85)**	**0.0273**
		Adj	0.23(0.03-1.64)	0.1431
	Graduation and above	Unadj	-	-
		Adj	-	-
Husband's educational level (ref=No education)	Primary	Unadj	1.00(0.28-3.61)	1.0000
		Adj	1.06(0.22-5.18)	0.9450
	High-school	Unadj	0.50(0.17-1.51)	0.2201
		Adj	0.93(0.21-4.09)	0.9267
	Graduation and above	Unadj	-	-
		Adj	-	-
Currently working?	Yes (ref=No)	Unadj	1.41(0.24-8.18)	0.7023
		Adj	1.29(0.11-15.41)	0.8424
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.55(0.16-1.83)	0.3271
		Adj	0.66(0.15-2.87)	0.5777
	Business	Unadj	0.36(0.07-1.96)	0.2399
		Adj	0.69(0.07-6.91)	0.7524
	Service	Unadj	0.23(0.02-3.13)	0.2682
		Adj	0.67(0.02-21.43)	0.8198
	Self-employed /Professional	Unadj	3.64(0.35-37.46)	0.2780
		Adj	3.10(0.24-40.13)	0.3860
Residential area	Rural (ref=Urban)	Unadj	1.79(0.71-4.53)	0.2198
		Adj	**7.53(1.07-52.94)**	**0.0423**

Table 5.l. Association of socio-demographic factors with ever accepting money/gift for having sex with male partner other than husband, among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	For sex with male partner other than husband ever accepted any gifts/money (ref=No)	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.03(0.91-1.16)	0.6859
		Adj	0.87(0.68-1.10)	0.2469
Age at marriage		Unadj	0.94(0.80-1.12)	0.5026
		Adj	1.05(0.82-1.33)	0.7172
Husband's age		Unadj	1.07(0.98-1.17)	0.1389
		Adj	1.13(0.97-1.32)	0.1236
Per capita family income		Unadj	1.01(0.99-1.03)	0.1543
		Adj	1.01(0.98-1.04)	0.6821
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	1.90(0.75-4.81)	0.1736
		Adj	1.16(0.26-5.31)	0.8444
Educational level (ref=No education)	Primary	Unadj	0.83(0.21-3.38)	0.7984
		Adj	0.19(0.01-2.41)	0.1995
	High-school	Unadj	**0.27(0.08-0.88)**	**0.0300**
		Adj	0.10(0.01-1.12)	0.0621
Husband's educational level (ref=No education)	Primary	Unadj	1.00(0.28-3.61)	1.0000
		Adj	1.40(0.25-7.76)	0.7012
	High-school	Unadj	0.40(0.13-1.23)	0.1103
		Adj	0.90(0.20-4.09)	0.8904
Currently working?	Yes (ref=No)	Unadj	1.57(0.27-9.11)	0.6143
		Adj	1.37(0.11-17.17)	0.8088
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.37(0.10-1.31)	0.1219
		Adj	0.30(0.06-1.56)	0.1517
	Business	Unadj	**0.17(0.03-0.99)**	**0.0497**
		Adj	0.15(0.01-1.59)	0.1158
	Service	Unadj	0.17(0.01-2.37)	0.1857
		Adj	1.33(0.03-59.90)	0.8817
	Self-employed /Professional	Unadj	1.17(0.17-8.09)	0.8760
		Adj	0.60(0.05-6.64)	0.6755
Residential area	Rural (ref=Urban)	Unadj	**3.00(1.16-7.75)**	**0.0229**
		Adj	**18.45(1.67-204.00)**	**0.0174**

Table 5.m. Association of socio-demographic factors with receiving injection from nurse/compounder/any health worker, among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	In the last 6 months, no. of injection received from a nurse/compounder/any health worker? (ref=Never)			
			1 to 2 times		More than two times	
Continuous			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	0.95(0.89-1.01)	0.0724	**0.92(0.86-0.99)**	**0.0316**
		Adj	1.02(0.92-1.14)	0.6795	0.91(0.80-1.03)	0.1498
Age at marriage		Unadj	**0.91(0.85-0.98)**	**0.0142**	0.98(0.90-1.06)	0.5722
		Adj	0.98(0.89-1.09)	0.7119	1.12(1.00-1.26)	0.0570
Husband's age		Unadj	0.96(0.92-1.01)	0.0869	0.97(0.92-1.02)	0.2233
		Adj	0.98(0.91-1.05)	0.5839	1.01(0.93-1.09)	0.7899
Per capita family income		Unadj	1.01(0.99-1.03)	0.1358	1.01(0.99-1.01)	0.1294
		Adj	1.01(0.98-1.04)	0.8903	1.01(0.98-1.04)	0.3853
Categorical	**Categories**		**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	**3.43(1.92-6.11)**	**<.0001**	**2.67(1.40-5.10)**	**0.0028**
		Adj	1.65(0.85-3.23)	0.1417	1.24(0.58-2.62)	0.5798
Educational level (ref=No education)	Primary	Unadj	3.04(0.74-12.50)	0.1237	**8.00(1.47-43.68)**	**0.0163**
		Adj	2.55(0.60-10.91)	0.2058	5.14(0.90-29.30)	0.0651
	High-school	Unadj	1.90(0.79-4.59)	0.1535	3.39(0.99-11.64)	0.0528
		Adj	1.48(0.57-3.84)	0.4228	2.06(0.56-7.61)	0.2767
	Graduation and above	Unadj	1.11(0.37-3.32)	0.8509	2.10(0.48-9.14)	0.3227
		Adj	1.35(0.37-4.89)	0.6498	1.67(0.32-8.68)	0.5446
Husband's educational level (ref=No education)	Primary	Unadj	1.15(0.32-4.13)	0.8329	1.52(0.38-6.04)	0.5534
		Adj	1.07(0.28-4.04)	0.9204	1.29(0.31-5.46)	0.7276
	High-school	Unadj	0.58(0.21-1.65)	0.3104	0.47(0.15-1.48)	0.1983
		Adj	0.70(0.23-2.18)	0.5411	0.45(0.13-1.56)	0.2058
	Graduation and above	Unadj	**0.31(0.10-0.99)**	**0.0483**	0.40(0.11-1.50)	0.1749
		Adj	0.42(0.11-1.67)	0.2208	0.47(0.10-2.19)	0.3369
Currently working?	Yes (ref=No)	Unadj	0.47(0.18-1.21)	0.1189	0.50(0.15-1.64)	0.2546
		Adj	0.60(0.19-1.86)	0.3729	0.75(0.19-2.94)	0.6814
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	0.59(0.20-1.71)	0.3315	0.87(0.27-2.82)	0.8124
		Adj	0.42(0.12-1.46)	0.1733	0.66(0.17-2.57)	0.5461
	Business	Unadj	0.62(0.20-1.92)	0.4074	0.67(0.19-2.36)	0.5299
		Adj	0.54(0.14-2.03)	0.3602	0.60(0.14-2.62)	0.5007
	Service	Unadj	0.35(0.11-1.13)	0.0794	0.51(0.14-1.91)	0.3170
		Adj	0.50(0.12-2.03)	0.3326	0.69(0.14-3.28)	0.6403
	Self-employed /Professional	Unadj	0.51(0.13-1.93)	0.3195	0.21(0.04-1.19)	0.0777
		Adj	0.44(0.09-2.07)	0.2965	0.21(0.03-1.41)	0.1079
Due to work, husband stays away from you/family at a stretch for ≥6 months?	Sometimes	Unadj	1.66(0.39-7.02)	0.4919	1.45(0.28-7.34)	0.6571
		Adj	1.09(0.22-5.37)	0.9162	1.11(0.19-6.62)	0.9081
	Few times	Unadj	2.05(0.36-11.88)	0.4216	1.33(0.18-9.73)	0.7762
		Adj	1.55(0.23-10.26)	0.6517	1.18(0.14-9.85)	0.8816
	Never (ref=Most of the time)	Unadj	2.64(0.91-7.66)	0.0748	1.18(0.35-4.00)	0.7903
		Adj	1.91(0.55-6.63)	0.3098	0.99(0.24-4.04)	0.9873
Residential area	Rural (ref=Urban)	Unadj	**5.73(3.08-10.66)**	**<.0001**	**6.16(3.10-12.25)**	**<.0001**
		Adj	**4.07(2.03-8.16)**	**<.0001**	**5.38(2.48-11.69)**	**<.0001**

Table 6.a. Association of age at first sex with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, WB, India, 2016

Variables	Response categories	OR	Age in years at first sex (ref=<15)					
			15-18		19-35		>35	
			OR (95%CI)	p value	OR (95%CI)	p value	OR (95%CI)	p value
Respondent's knowledge regarding STIs and HIV								
Knowledge regarding symptoms of STI (ref=Poor)	Average	U	**1.55(1.03-2.31)**	**0.0337**	1.34(0.87-2.06)	0.1844	0.61(0.19-1.92)	0.3966
		A	1.52(0.98-2.34)	0.0606	1.42(0.83-2.43)	0.2060	0.78(0.22-2.81)	0.7034
	Good	U	**1.85(1.19-2.90)**	**0.0068**	**2.58(1.62-4.11)**	**<.0001**	0.46(0.11-1.94)	0.2904
		A	**1.85(1.14-3.01)**	**0.0124**	**2.37(1.33-4.23)**	**0.0035**	0.45(0.09-2.22)	0.3265
Knowledge regarding transmission of STI (ref=Poor)	Average	U	**1.94(1.22-3.08)**	**0.0053**	**2.29(1.41-3.71)**	**0.0008**	0.69(0.13-3.49)	0.6497
		A	**1.90(1.16-3.11)**	**0.0110**	**2.80(1.57-4.99)**	**0.0005**	0.33(0.04-2.93)	0.3196
	Good	U	**1.46(1.03-2.08)**	**0.0352**	**1.70(1.17-2.47)**	**0.0050**	0.88(0.29-2.62)	0.8158
		A	**1.53(1.04-2.24)**	**0.0307**	**1.94(1.21-3.10)**	**0.0056**	0.81(0.25-2.64)	0.7330
Knowledge regarding complication of STI (ref=Poor)	Average	U	1.38(0.89-2.14)	0.1455	1.28(0.82-2.02)	0.2795	0.69(0.14-3.49)	0.6526
		A	1.33(0.83-2.12)	0.2363	1.50(0.86-2.59)	0.1501	0.89(0.16-5.04)	0.8978
	Good	U	1.22(0.85-1.73)	0.2788	1.01(0.70-1.46)	0.9659	1.21(0.40-3.61)	0.7378
		A	1.24(0.84-1.82)	0.2730	1.30(0.82-2.05)	0.2596	1.49(0.45-4.90)	0.5114
Overall knowledge regarding STI (ref=Poor)	Average	U	**1.90(1.30-2.76)**	**0.0008**	**2.09(1.40-3.10)**	**0.0003**	1.48(0.49-4.49)	0.4898
		A	**2.09(1.39-3.13)**	**0.0004**	**2.59(1.58-4.24)**	**0.0002**	2.30(0.67-7.88)	0.1840
	good	U	**1.68(1.12-2.52)**	**0.0122**	**2.18(1.43-3.33)**	**0.0003**	0.48(0.09-2.49)	0.3852
		A	**1.63(1.05-2.52)**	**0.0288**	**2.13(1.26-3.60)**	**0.0049**	0.50(0.08-2.93)	0.4386
Sexual Relation with husband								
How is your sexual experience with your husband? (ref=excellent)	Good/OK	U	**1.58(1.06-2.34)**	**0.0241**	**1.59(1.05-2.39)**	**0.0267**	0.72(0.19-2.73)	0.6316
		A	**1.61(1.05-2.48)**	**0.0293**	1.64(1.00-2.71)	0.0517	0.86(0.21-3.49)	0.8312
	OK	U	1.54(0.95-2.49)	0.0778	1.63(1.00-2.68)	0.0520	0.40(0.05-3.26)	0.3937
		A	1.58(0.94-2.65)	0.0818	1.60(0.88-2.90)	0.1200	0.59(0.07-5.09)	0.6342
	Bad	U	0.85(0.45-1.60)	0.6172	**0.44(0.21-0.93)**	**0.0304**	0.69(0.08-5.74)	0.7301
		A	0.94(0.48-1.85)	0.8575	**0.39(0.15-0.99)**	**0.0475**	0.44(0.04-4.52)	0.4866
Before trying to have a baby, while having sex who took the decision if you should use a condom? (ref=self)	Both together	U	1.18(0.19-7.43)	0.8586	1.91(0.24-15.46)	0.5445	-	-
		A	1.40(0.10-20.43)	0.8042	1.12(0.05-23.91)	0.9414	-	-
	Husband	U	0.40(0.05-3.42)	0.4029	1.00(0.10-10.17)	1.0000	-	-
		A	0.88(0.04-17.67)	0.9341	0.65(0.02-17.85)	0.8001	-	-
Husband's sexual behavior								
Consumption of alcohol before having sex with you (ref=Never/Very rare)	Sometimes	U	**0.66(0.45-0.97)**	**0.0347**	0.67(0.44-1.00)	0.0511	0.21(0.03-1.65)	0.1377
		A	0.92(0.58-1.44)	0.7064	0.95(0.55-1.65)	0.8647	-	-
	Almost always	U	**0.35(0.15-0.81)**	**0.0136**	**0.34(0.14-0.83)**	**0.0186**	-	-
		A	0.47(0.19-1.18)	0.1085	**0.28(0.08-0.95)**	**0.0405**	-	-
Husband had vaginal sex with you during pregnancy (ref=No)	Yes	U	1.38(0.97-1.95)	0.0705	1.15(0.80-1.65)	0.4567	0.55(0.17-1.79)	0.3250
		A	1.15(0.79-1.68)	0.4702	0.95(0.60-1.49)	0.8152	0.70(0.20-2.42)	0.5686
Husband use slang language/behave badly	Yes (ref=No)	U	**0.36(0.23-0.56)**	**<.0001**	**0.28(0.17-0.47)**	**<.0001**	2.55(0.87-7.50)	0.0879
		A	**0.46(0.28-0.76)**	**0.0026**	0.54(0.28-1.03)	0.0626	**4.29(1.15-16.02)**	**0.0304**

during sex with you								
While having sex, physically assault/abuse by husband	Yes (ref=No)	U	**0.52(0.30-0.89)**	**0.0168**	**0.42(0.23-0.77)**	**0.0046**	**4.92(1.62-14.98)**	**0.0050**
		A	0.75(0.41-1.37)	0.3460	1.02(0.48-2.15)	0.9677	**10.84(2.60-45.15)**	**0.0011**
You suspect that husband has/had sexual relations with other women	Yes (ref=No)	U	**0.44(0.27-0.71)**	**0.0007**	**0.56(0.34-0.91)**	**0.0201**	1.86(0.56-6.17)	0.3123
		A	**0.57(0.33-0.97)**	**0.0376**	0.87(0.46-1.65)	0.6673	2.00(0.52-7.60)	0.3103
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	U	**0.46(0.24-0.88)**	**0.0188**	0.51(0.26-1.01)	0.0548	1.74(0.36-8.41)	0.4938
		A	0.70(0.34-1.46)	0.3431	1.15(0.47-2.80)	0.7583	1.96(0.34-11.25)	0.4514

Table 6.b. Association of having first sex before marriage with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Had first sex before marriage? (ref=No)	
			Yes	
			OR (95%CI)	p value
Respondent's knowledge regarding STIs and HIV				
Knowledge regarding symptoms of STI (ref=Poor)	Average	Unadj	0.91(0.57-1.47)	0.7132
		Adj	0.96(0.59-1.57)	0.8706
	Good	Unadj	1.03(0.64-1.68)	0.8926
		Adj	1.00(0.60-1.66)	0.9981
Knowledge regarding transmission of STI (ref=Poor)	Average	Unadj	0.83(0.51-1.35)	0.4606
		Adj	0.83(0.50-1.35)	0.4487
	Good	Unadj	0.93(0.63-1.38)	0.7136
		Adj	1.00(0.66-1.49)	0.9839
Knowledge regarding complication of STI (ref=Poor)	Average	Unadj	0.91(0.58-1.42)	0.6787
		Adj	0.91(0.57-1.44)	0.6802
	Good	Unadj	0.78(0.53-1.16)	0.2191
		Adj	0.86(0.58-1.28)	0.4561
Overall knowledge regarding STI (ref=Poor)	Average	Unadj	0.95(0.63-1.44)	0.8037
		Adj	0.97(0.63-1.49)	0.8858
	good	Unadj	0.90(0.58-1.42)	0.6639
		Adj	0.92(0.58-1.47)	0.7389
Sexual Relation with husband				
How is your sexual experience with your husband? (ref=excellent)	Good/OK	Unadj	0.93(0.62-1.40)	0.7253
		Adj	0.96(0.63-1.47)	0.8555
	OK	Unadj	0.99(0.61-1.60)	0.9579
		Adj	1.05(0.64-1.71)	0.8591
	Bad	Unadj	1.69(0.86-3.34)	0.1301
		Adj	1.97(0.98-3.99)	0.0587
Before trying to have a baby, while having sex who took the decision if you should use a condom? (ref=self)	Both together	Unadj	1.60(0.18-14.41)	0.6731
		Adj	0.91(0.08-10.74)	0.9383
	Husband	Unadj	1.17(0.09-15.32)	0.9066
		Adj	0.75(0.04-12.99)	0.8419
Husband's sexual behavior				
Consumption of alcohol before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	**2.23(1.51-3.29)**	**<.0001**
		Adj	**1.88(1.24-2.86)**	**0.0029**
	Almost always	Unadj	**4.26(1.96-9.30)**	**0.0003**
		Adj	**4.02(1.77-9.13)**	**0.0009**
Husband had vaginal sex with you during pregnancy (ref=No)	Yes	Unadj	1.01(0.69-1.48)	0.9606
		Adj	1.03(0.69-1.54)	0.8750
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	**2.70(1.71-4.28)**	**<.0001**
		Adj	**3.23(1.94-5.37)**	**<.0001**
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	1.65(0.91-2.97)	0.0978
		Adj	1.84(0.97-3.49)	0.0633
You suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	**1.72(1.04-2.85)**	**0.0359**
		Adj	**1.88(1.10-3.21)**	**0.0214**
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	**1.97(1.01-3.83)**	**0.0459**
		Adj	**2.17(1.06-4.44)**	**0.0346**

Table 6.c. Association of "ever being forced to have sex" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees self-interviewed (N=1670), Kolkata, WB, India, 2016

Variables	Response categories	OR	Ever had forced sex (ref=No)			
			Yes, by husband		Yes by someone else	
			OR (95%CI)	p value	OR (95%CI)	p value
Respondent's knowledge regarding STIs and HIV						
Knowledge regarding symptoms of STI (ref=Poor)	Average	U	1.07(0.80-1.43)	0.6382	1.78(0.65-4.83)	0.2608
		A	1.07(0.79-1.46)	0.6456	2.29(0.76-6.93)	0.1434
	Good	U	**0.58(0.43-0.78)**	**0.0003**	1.76(0.66-4.73)	0.2622
		A	**0.67(0.49-0.92)**	**0.0124**	2.54(0.84-7.68)	0.0977
Knowledge regarding transmission of STI (ref=Poor)	Average	U	0.79(0.60-1.04)	0.0942	1.34(0.56-3.18)	0.5114
		A	0.76(0.56-1.02)	0.0659	1.40(0.56-3.49)	0.4658
	Good	U	1.17(0.92-1.49)	0.1976	2.03(0.97-4.26)	0.0609
		A	1.20(0.93-1.55)	0.1718	**2.32(1.05-5.11)**	**0.0376**
Knowledge regarding complication of STI (ref=Poor)	Average	U	0.97(0.75-1.26)	0.8307	1.42(0.67-3.00)	0.3617
		A	0.97(0.73-1.29)	0.8431	1.57(0.72-3.44)	0.2599
	Good	U	**1.56(1.23-1.97)**	**0.0002**	1.89(0.98-3.65)	0.0593
		A	**1.49(1.16-1.91)**	**0.0018**	1.92(0.96-3.84)	0.0646
Overall knowledge regarding STI (ref=Poor)	Average	U	**0.77(0.60-1.00)**	**0.0464**	1.29(0.58-2.88)	0.5337
		A	0.80(0.62-1.05)	0.1073	1.59(0.68-3.74)	0.2839
	good	U	0.87(0.67-1.15)	0.3340	1.85(0.82-4.17)	0.1359
		A	0.96(0.71-1.28)	0.7662	2.32(0.97-5.55)	0.0575
Sexual Relation with husband						
How is your sexual experience with your husband? (ref=excellent)	Good/OK	U	1.06(0.83-1.35)	0.6347	1.45(0.76-2.77)	0.2558
		A	1.15(0.89-1.49)	0.2751	1.81(0.92-3.55)	0.0868
	OK	U	0.82(0.62-1.08)	0.1639	0.45(0.15-1.33)	0.1499
		A	0.83(0.62-1.12)	0.2270	0.46(0.15-1.40)	0.1733
	Bad	U	**2.27(1.27-4.08)**	**0.0060**	**6.11(2.26-16.47)**	**0.0004**
		A	**2.04(1.11-3.74)**	**0.0209**	**4.96(1.73-14.20)**	**0.0028**
Before trying to have a baby, while having sex who took the decision if you should use a condom? (ref=self)	Both together	U	0.19(0.02-1.72)	0.1402	0.20(0.01-3.76)	0.2822
		A	0.32(0.01-8.49)	0.4954	0.70(0.00-465.30)	0.9129
	Husband	U	0.61(0.05-7.24)	0.6962	-	-
		A	3.51(0.07-167.90)	0.5243	-	-
Husband's sexual behavior						
Consumption of alcohol before having sex with you (ref=Never/Very rare)	Sometimes	U	1.15(0.87-1.50)	0.3274	1.74(0.89-3.39)	0.1025
		A	1.30(0.96-1.76)	0.0881	1.84(0.88-3.83)	0.1040
	Almost always	U	1.80(0.84-3.86)	0.1301	1.43(0.18-11.59)	0.7377
		A	1.86(0.84-4.15)	0.1275	1.13(0.13-9.87)	0.9112
Husband had vaginal sex with you during pregnancy	Yes (ref=No)	U	**1.34(1.07-1.68)**	**0.0118**	1.18(0.63-2.24)	0.6021
		A	**1.46(1.14-1.86)**	**0.0026**	1.45(0.74-2.83)	0.2758
Husband use slang language/behave badly during sex with you (ref=No)	Yes	U	1.45(0.99-2.13)	0.0576	**2.90(1.32-6.37)**	**0.0080**
		A	1.25(0.82-1.90)	0.2995	2.20(0.91-5.30)	0.0784
While having sex, physically assault/abuse by husband (ref=No)	Yes	U	1.40(0.90-2.17)	0.1328	2.45(0.97-6.19)	0.0577
		A	1.21(0.75-1.95)	0.4313	1.94(0.71-5.32)	0.1949
You suspect that husband has/had sexual relations with other women (ref=No)	Yes	U	1.16(0.81-1.67)	0.4141	1.77(0.76-4.14)	0.1878
		A	1.07(0.73-1.59)	0.7170	1.42(0.57-3.54)	0.4484
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	U	0.74(0.46-1.21)	0.2349	1.15(0.34-3.91)	0.8207
		A	0.63(0.37-1.07)	0.0887	0.72(0.20-2.62)	0.6208

Table 6.d. Association of "ever having anal sex" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Ever had anal sex (ref=No)	
			Yes	
			OR (95%CI)	p value
Respondent's knowledge regarding STIs and HIV				
Knowledge regarding symptoms of STI (ref=Poor)	Average	Unadj	1.15(0.88-1.51)	0.3089
		Adj	1.16(0.87-1.53)	0.3195
	Good	Unadj	0.78(0.59-1.04)	0.0899
		Adj	0.90(0.67-1.21)	0.4961
Knowledge regarding transmission of STI (ref=Poor)	Average	Unadj	**0.73(0.55-0.95)**	**0.0201**
		Adj	**0.72(0.55-0.96)**	**0.0248**
	Good	Unadj	1.19(0.95-1.50)	0.1331
		Adj	1.23(0.97-1.56)	0.0941
Knowledge regarding complication of STI (ref=Poor)	Average	Unadj	0.83(0.65-1.07)	0.1583
		Adj	0.87(0.66-1.13)	0.2989
	Good	Unadj	**1.46(1.17-1.83)**	**0.0007**
		Adj	**1.41(1.12-1.79)**	**0.0037**
Overall knowledge regarding STI (ref=Poor)	Average	Unadj	**0.76(0.60-0.96)**	**0.0234**
		Adj	0.81(0.63-1.04)	0.1022
	good	Unadj	0.99(0.76-1.28)	0.9422
		Adj	1.09(0.83-1.43)	0.5319
Sexual Relation with husband				
How is your sexual experience with your husband? (ref=excellent)	Good/OK	Unadj	1.12(0.89-1.41)	0.3247
		Adj	1.25(0.98-1.59)	0.0711
	OK	Unadj	0.90(0.69-1.18)	0.4588
		Adj	0.98(0.74-1.30)	0.8787
	Bad	Unadj	**2.15(1.29-3.58)**	**0.0032**
		Adj	**1.87(1.11-3.16)**	**0.0190**
Before trying to have a baby, while having sex who took the decision if you should use a condom? (ref=self)	Both together	Unadj	0.18(0.02-1.57)	0.1209
		Adj	0.20(0.02-2.05)	0.1738
	Husband	Unadj	0.36(0.03-3.92)	0.3996
		Adj	0.50(0.04-6.67)	0.6013
Husband's sexual behavior				
Consumption of alcohol before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	1.04(0.81-1.34)	0.7668
		Adj	1.10(0.83-1.46)	0.5019
	Almost always	Unadj	**2.90(1.32-6.39)**	**0.0083**
		Adj	**2.57(1.14-5.84)**	**0.0236**
Husband had vaginal sex with you during pregnancy (ref=No)	Yes	Unadj	**1.36(1.09-1.69)**	**0.0055**
		Adj	**1.54(1.22-1.95)**	**0.0003**
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	**1.84(1.27-2.65)**	**0.0011**
		Adj	1.36(0.92-2.01)	0.1221
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	**1.90(1.24-2.90)**	**0.0032**
		Adj	1.43(0.91-2.24)	0.1224
You suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	**1.43(1.01-2.02)**	**0.0452**
		Adj	1.20(0.83-1.74)	0.3246
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	1.31(0.81-2.14)	0.2741
		Adj	1.02(0.61-1.70)	0.9540

Table 6.e. Association of "ever having sex with someone who consumed alcohol before having sex" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Ever anyone had sex with you after consuming alcohol? (ref=No)	
			Yes	
			OR (95%CI)	p value
Respondent's knowledge regarding STIs and HIV				
Knowledge regarding symptoms of STI (ref=Poor)	Average	Unadj	1.27(0.96-1.68)	0.0911
		Adj	**1.41(1.05-1.91)**	**0.0232**
	Good	Unadj	1.14(0.85-1.51)	0.3854
		Adj	**1.37(1.01-1.88)**	**0.0448**
Knowledge regarding transmission of STI (ref=Poor)	Average	Unadj	0.94(0.72-1.24)	0.6639
		Adj	1.01(0.76-1.36)	0.9285
	Good	Unadj	0.91(0.72-1.14)	0.4213
		Adj	1.09(0.85-1.40)	0.4942
Knowledge regarding complication of STI (ref=Poor)	Average	Unadj	0.90(0.69-1.16)	0.4123
		Adj	1.01(0.77-1.34)	0.9229
	Good	Unadj	1.06(0.85-1.32)	0.6311
		Adj	1.25(0.98-1.58)	0.0721
Overall knowledge regarding STI (ref=Poor)	Average	Unadj	0.94(0.74-1.20)	0.6329
		Adj	1.08(0.83-1.40)	0.5694
	good	Unadj	1.08(0.83-1.39)	0.5784
		Adj	**1.36(1.03-1.80)**	**0.0303**
Sexual Relation with husband				
How is your sexual experience with your husband? (ref=excellent)	Good/OK	Unadj	0.88(0.70-1.11)	0.2936
		Adj	1.04(0.81-1.34)	0.7416
	OK	Unadj	0.87(0.66-1.14)	0.3083
		Adj	1.00(0.75-1.35)	0.9745
	Bad	Unadj	**3.62(2.19-5.98)**	**<.0001**
		Adj	**4.25(2.50-7.23)**	**<.0001**
Before trying to have a baby, while having sex who took the decision if you should use a condom? (ref=self)	Both together	Unadj	2.61(0.57-11.97)	0.2175
		Adj	3.38(0.45-25.29)	0.2354
	Husband	Unadj	2.22(0.37-13.18)	0.3793
		Adj	3.61(0.36-36.32)	0.2765
Husband's sexual behavior				
Husband had vaginal sex with you during pregnancy (ref=No)	Yes	Unadj	1.21(0.97-1.51)	0.0944
		Adj	**1.40(1.09-1.78)**	**0.0074**
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	**2.11(1.50-2.98)**	**<.0001**
		Adj	**1.87(1.27-2.73)**	**0.0013**
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	**1.59(1.07-2.35)**	**0.0210**
		Adj	1.47(0.95-2.27)	0.0834
You suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	**2.09(1.49-2.94)**	**<.0001**
		Adj	**2.20(1.52-3.19)**	**<.0001**
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	**1.87(1.16-3.01)**	**0.0098**
		Adj	**1.75(1.04-2.94)**	**0.0352**

Table 6.g. Association of "having male sex partner other than husband" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Have male sex partner other than husband (ref=No)	
			Yes	
			OR (95%CI)	p value
Respondent's knowledge regarding STIs and HIV				
Knowledge regarding symptoms of STI (ref=Poor)	Average	Unadj	0.72(0.35-1.47)	0.3661
		Adj	0.77(0.36-1.62)	0.4889
	Good	Unadj	1.90(0.99-3.65)	0.0528
		Adj	**2.54(1.26-5.09)**	**0.0089**
Knowledge regarding transmission of STI (ref=Poor)	Average	Unadj	**1.87(1.02-3.41)**	**0.0425**
		Adj	**2.09(1.10-3.97)**	**0.0244**
	Good	Unadj	1.11(0.63-1.97)	0.7142
		Adj	1.10(0.60-2.02)	0.7604
Knowledge regarding complication of STI (ref=Poor)	Average	Unadj	0.54(0.28-1.05)	0.0703
		Adj	0.65(0.32-1.30)	0.2214
	Good	Unadj	0.77(0.47-1.27)	0.3081
		Adj	0.65(0.39-1.10)	0.1102
Overall knowledge regarding STI (ref=Poor)	Average	Unadj	1.11(0.62-1.96)	0.7328
		Adj	1.26(0.69-2.31)	0.4551
	good	Unadj	1.27(0.70-2.30)	0.4391
		Adj	1.42(0.75-2.69)	0.2835
Sexual Relation with husband				
How is your sexual experience with your husband? (ref=excellent)	Good/OK	Unadj	0.84(0.49-1.43)	0.5158
		Adj	0.97(0.55-1.71)	0.9093
	OK	Unadj	0.73(0.37-1.44)	0.3624
		Adj	0.73(0.35-1.49)	0.3798
	Bad	Unadj	1.20(0.46-3.12)	0.7074
		Adj	0.67(0.24-1.83)	0.4345
Before trying to have a baby, while having sex who took the decision if you should use a condom? (ref=self)	Both together	Unadj	3.80(0.82-17.62)	0.0885
		Adj	**10.68(1.37-83.46)**	**0.0240**
	Husband	Unadj	2.22(0.37-13.18)	0.3793
		Adj	3.97(0.41-38.16)	0.2318
Husband's sexual behavior				
Consumption of alcohol before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	**2.21(1.32-3.68)**	**0.0024**
		Adj	**1.98(1.10-3.56)**	**0.0224**
	Almost always	Unadj	**7.12(3.10-16.37)**	**<.0001**
		Adj	**3.99(1.52-10.47)**	**0.0050**
Husband had vaginal sex with you during pregnancy (ref=No)	Yes	Unadj	**0.35(0.22-0.56)**	**<.0001**
		Adj	**0.47(0.28-0.79)**	**0.0044**
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	**30.45(18.40-50.38)**	**<.0001**
		Adj	**20.55(11.78-35.86)**	**<.0001**
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	**40.42(24.11-67.78)**	**<.0001**
		Adj	**27.49(15.49-48.78)**	**<.0001**
You suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	**31.10(18.75-51.59)**	**<.0001**
		Adj	**24.69(14.19-42.94)**	**<.0001**
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	**72.30(40.47-129.20)**	**<.0001**
		Adj	**52.07(27.21-99.67)**	**<.0001**

Table 6.h. Association of "being ever offered money for sex with male partner other than husband" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	For sex with male partner other than husband were you ever offered money? (ref=No)	
			Yes	
			OR (95%CI)	p value
Respondent's knowledge regarding STIs and HIV				
Knowledge regarding symptoms of STI (ref=Poor)	Average	Unadj	0.77(0.19-3.12)	0.4429
		Adj	0.48(0.07-3.16)	0.4429
	Good	Unadj	2.29(0.63-8.34)	0.3793
		Adj	2.12(0.40-11.23)	0.3793
Knowledge regarding transmission of STI (ref=Poor)	Average	Unadj	**2.75(0.82-9.24)**	**0.0164**
		Adj	**10.13(1.53-67.09)**	**0.0164**
	Good	Unadj	**2.33(0.74-7.28)**	**0.0193**
		Adj	**9.08(1.43-57.64)**	**0.0193**
Knowledge regarding complication of STI (ref=Poor)	Average	Unadj	0.58(0.16-2.16)	0.4294
		Adj	0.48(0.08-2.98)	0.4294
	Good	Unadj	**2.15(0.77-5.99)**	**0.0250**
		Adj	**5.98(1.25-28.54)**	**0.0250**
Overall knowledge regarding STI (ref=Poor)	Average	Unadj	**7.78(2.18-27.81)**	**0.0044**
		Adj	**11.33(2.13-60.37)**	**0.0044**
	good	Unadj	**5.04(1.40-18.14)**	**0.0047**
		Adj	**13.94(2.25-86.47)**	**0.0047**
Sexual Relation with husband				
How is your sexual experience with your husband? (ref=excellent)	Good/OK	Unadj	**0.40(0.10-1.55)**	**0.0238**
		Adj	**0.09(0.01-0.72)**	**0.0238**
	OK	Unadj	**0.40(0.10-1.55)**	**0.0238**
		Adj	**0.09(0.01-0.72)**	**0.0238**
	Bad	Unadj	1.04(0.16-6.86)	0.5802
		Adj	0.54(0.06-4.83)	0.5802
Before trying to have a baby, while having sex who took the decision if you should use a condom? (ref=self)	Both together	Unadj	1.57(0.36-6.89)	0.3487
		Adj	2.45(0.38-16.06)	0.3487
	Husband	Unadj	1.33(0.23-7.63)	0.9617
		Adj	1.05(0.12-9.18)	0.9617
Husband's sexual behavior				
Consumption of alcohol before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	0.40(0.14-1.09)	0.6797
		Adj	0.73(0.17-3.21)	0.6797
	Almost always	Unadj	0.86(0.18-4.03)	0.7254
		Adj	0.69(0.09-5.35)	0.7254
Husband had vaginal sex with you during pregnancy (ref=No)	Yes	Unadj	0.18(0.06-0.51)	0.0528
		Adj	0.23(0.05-1.02)	0.0528
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	**5.88(2.16-16.00)**	**0.0417**
		Adj	**4.80(1.06-21.70)**	**0.0417**
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	**18.30(5.91-56.64)**	**0.0003**
		Adj	**17.80(3.72-85.24)**	**0.0003**
You suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	**12.25(4.03-37.22)**	**0.0003**
		Adj	**21.20(4.12-109.00)**	**0.0003**
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	**19.50(6.21-61.19)**	**<.0001**
		Adj	**46.69(7.07-308.20)**	**<.0001**

Table 6.i. Association of "ever accepting money/gift for sex with male partner other than husband" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	For sex with male partner other than husband ever accepted any gifts/money? (ref=No)	
			OR (95%CI)	p value
Respondent's knowledge regarding STIs and HIV				
Knowledge regarding symptoms of STI (ref=Poor)	Average	Unadj	0.64(0.16-2.63)	0.5385
		Adj	0.26(0.03-2.00)	0.1970
	Good	Unadj	2.07(0.57-7.50)	0.2696
		Adj	2.23(0.39-12.68)	0.3650
Knowledge regarding transmission of STI (ref=Poor)	Average	Unadj	2.00(0.61-6.58)	0.2540
		Adj	**6.06(1.04-35.38)**	**0.0454**
	Good	Unadj	2.33(0.74-7.28)	0.1465
		Adj	**9.91(1.59-61.58)**	**0.0139**
Knowledge regarding complication of STI (ref=Poor)	Average	Unadj	0.45(0.12-1.75)	0.2499
		Adj	0.30(0.04-2.04)	0.2191
	Good	Unadj	2.37(0.85-6.61)	0.0977
		Adj	**6.04(1.06-34.36)**	**0.0425**
Overall knowledge regarding STI (ref=Poor)	Average	Unadj	**5.85(1.68-20.41)**	**0.0055**
		Adj	**10.50(1.79-61.71)**	**0.0093**
	good	Unadj	**5.04(1.40-18.14)**	**0.0133**
		Adj	**18.54(2.62-131.30)**	**0.0035**
Sexual Relation with husband				
How is your sexual experience with your husband? (ref=excellent)	Good/OK	Unadj	0.40(0.10-1.55)	0.1838
		Adj	**0.10(0.01-0.86)**	**0.0365**
	OK	Unadj	0.40(0.10-1.55)	0.1838
		Adj	**0.10(0.01-0.86)**	**0.0365**
	Bad	Unadj	0.46(0.07-3.05)	0.4220
		Adj	0.27(0.03-2.58)	0.2534
Before trying to have a baby, while having sex who took the decision if you should use a condom? (ref=self)	Both together	Unadj	1.46(0.33-6.41)	0.6173
		Adj	4.42(0.56-34.71)	0.1577
	Husband	Unadj	1.00(0.18-5.68)	1.0000
		Adj	1.42(0.14-14.16)	0.7653
Husband's sexual behavior				
Consumption of alcohol before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	**0.30(0.11-0.84)**	**0.0225**
		Adj	0.66(0.14-3.17)	0.6068
	Almost always	Unadj	1.69(0.31-9.25)	0.5466
		Adj	2.86(0.23-35.34)	0.4124
Husband had vaginal sex with you during pregnancy (ref=No)	Yes	Unadj	**0.18(0.06-0.50)**	**0.0011**
		Adj	0.24(0.05-1.15)	0.0738
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	**6.33(2.30-17.47)**	**0.0004**
		Adj	2.79(0.66-11.88)	0.1643
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	**13.93(4.69-41.37)**	**<.0001**
		Adj	**13.97(2.89-67.60)**	**0.0010**
You suspect that husband has/had sexual relations with other women	Yes (ref=No)	Unadj	**7.43(2.61-21.16)**	**0.0002**
		Adj	**20.27(3.32-123.80)**	**0.0011**
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	**13.87(4.74-40.60)**	**<.0001**
		Adj	**42.80(6.36-288.10)**	**0.0001**

Table 6.j. Association of "suspecting that the male sex partner who paid money for sex has sexual relations with female sex workers" with respondents' knowledge, their sexual relationship with their husband and their husband's sexual behavior, among the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Variables	Response categories	OR	Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers (ref=No)	
			yes	
			OR (95%CI)	p value
Respondent's knowledge regarding STIs and HIV				
Knowledge regarding symptoms of STI (ref=Poor)	Average	Unadj	1.54(0.36-6.60)	0.5621
		Adj	0.72(0.11-4.53)	0.7249
	Good	Unadj	3.41(0.89-13.04)	0.0729
		Adj	2.59(0.51-13.10)	0.2503
Knowledge regarding transmission of STI (ref=Poor)	Average	Unadj	**4.33(1.23-15.20)**	**0.0221**
		Adj	**6.07(1.13-32.70)**	**0.0357**
	Good	Unadj	2.57(0.80-8.32)	0.1147
		Adj	4.55(0.81-25.54)	0.0852
Knowledge regarding complication of STI (ref=Poor)	Average	Unadj	0.33(0.09-1.29)	0.1125
		Adj	0.30(0.05-1.85)	0.1954
	Good	Unadj	0.71(0.27-1.87)	0.4942
		Adj	0.67(0.21-2.14)	0.4994
Overall knowledge regarding STI (ref=Poor)	Average	Unadj	**5.85(1.68-20.41)**	**0.0055**
		Adj	**6.48(1.35-31.11)**	**0.0195**
	good	Unadj	3.23(0.91-11.42)	0.0687
		Adj	3.46(0.70-17.10)	0.1286
Sexual relation with husband				
How is your sexual experience with your husband? (ref=excellent)	Good/OK	Unadj	1.01(0.35-2.90)	0.9803
		Adj	0.96(0.24-3.89)	0.9564
	OK	Unadj	0.29(0.07-1.22)	0.0908
		Adj	0.20(0.03-1.27)	0.0883
	Bad	Unadj	1.14(0.17-7.52)	0.8917
		Adj	1.14(0.14-9.19)	0.9055
Husband's sexual behavior				
Consumption of alcohol before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	0.66(0.25-1.79)	0.4183
		Adj	0.57(0.13-2.53)	0.4572
	Almost always	Unadj	0.43(0.09-2.02)	0.2880
		Adj	0.28(0.04-1.81)	0.1810
Husband had vaginal sex with you during pregnancy (ref=No)	Yes	Unadj	**0.27(0.10-0.72)**	**0.0087**
		Adj	0.33(0.08-1.27)	0.1062
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	1.88(0.74-4.75)	0.1823
		Adj	1.71(0.44-6.62)	0.4365
While having sex, physically assault/abuse by husband	Yes (ref=No)	Unadj	**2.87(1.14-7.21)**	**0.0249**
		Adj	**4.33(1.11-16.92)**	**0.0349**
You suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	**4.37(1.61-11.86)**	**0.0037**
		Adj	**4.62(1.16-18.41)**	**0.0299**
Think that the other woman with whom husband has/had sexual relation is a sex worker	Yes (ref=No)	Unadj	**7.15(2.67-19.13)**	**<.0001**
		Adj	**10.82(2.65-44.18)**	**0.0009**

Table 7.a. Distribution of the past history of having symptoms of sexually transmitted infections among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
In the last 6 months, did you ever have yellowish/dark colored urine for a sustained period?	No	1274	76.29	74.25	78.33
	Yes	396	23.71	21.67	25.75
In the last 6 months, were or eyes or skin yellowish for a prolonged duration?	No	1529	91.56	90.22	92.89
	Yes	141	8.44	7.11	9.78
In the last 6 months, did you feel feverish or have a low appetite for a prolonged duration?	No	1215	72.75	70.62	74.89
	Yes	455	27.25	25.11	29.38
In the last 6 months, did you feel nausea or have episodes of vomiting for a prolonged duration of time?	No	679	40.66	38.30	43.02
	Yes	991	59.34	56.98	61.70
In the last 6 months, did you have any foul smelling discharge from your private parts?	No	1071	64.13	61.83	66.43
	Once	306	18.32	16.47	20.18
	> Once	293	17.54	15.72	19.37
In the last 6 months, did you ever have any burning sensation while urinating?	No	1141	68.32	66.09	70.56
	Once	250	14.97	13.26	16.68
	> Once	279	16.71	14.92	18.50
In the last 6 months, did you any lesions in your private parts?	No	1539	92.16	90.86	93.45
	Once	72	4.31	3.34	5.29
	> Once	59	3.53	2.65	4.42
In the last 6 months, did you have any itching sensation in your private parts?	No	1136	68.02	65.78	70.26
	Once	268	16.05	14.29	17.81
	> Once	266	15.93	14.17	17.69
In the last 6 months, did you ever have pain in your lower abdomen or lower back?	No	599	35.87	33.57	38.17
	Once	392	23.47	21.44	25.51
	> Once	679	40.66	38.30	43.02
In the last 6 months, did you have any inflammation/swelling in your groin?	No	1559	93.35	92.16	94.55
	Once	56	3.35	2.49	4.22
	> Once	55	3.29	2.44	4.15

Table 7b. Association between respondent's and her husband's medical history and having yellowish discoloration of urine and eye/skin for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Medical history of the respondent and her husband			Had yellowish/dark colored urine for a sustained period		Yellowish discoloration of eyes or skin for a prolonged duration	
Respondent had history of	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Blood transfusion in last 6 months (ref=no)	Yes	Unadj	1.62(0.60-4.34)	0.3386	2.20(0.63-7.67)	0.2184
		Adj	2.02(0.72-5.67)	0.1804	2.87(0.74-11.13)	0.1280
Hepatitis- B vaccination (ref=no)	Yes	Unadj	0.82(0.58-1.18)	0.2887	0.83(0.48-1.45)	0.5089
		Adj	0.87(0.60-1.27)	0.4743	1.00(0.54-1.86)	0.9957
Having Hepatitis- B (ref=no)	Yes	Unadj	1.00(0.47-2.13)	0.9967	2.08(0.85-5.06)	0.1067
		Adj	1.31(0.60-2.86)	0.4947	2.66(0.95-7.42)	0.0622
Husband had history of						
Having Hepatitis- B (ref=no)	Yes	Unadj	0.27(0.04-2.06)	0.2045	-	-
		Adj	0.31(0.04-2.49)	0.2734	-	-
Burning sensation/pain/ irritation while urinating or inflammation in the groin (ref=never)	Once	Unadj	**2.47(1.75-3.47)**	**<.0001**	**2.76(1.75-4.35)**	**<.0001**
		Adj	**2.40(1.69-3.41)**	**<.0001**	**2.81(1.73-4.56)**	**<.0001**
	More than once	Unadj	**2.53(1.65-3.89)**	**<.0001**	1.88(0.99-3.56)	0.0524
		Adj	**2.49(1.59-3.89)**	**<.0001**	1.60(0.77-3.33)	0.2053

Table 7c. Association between respondent's and her husband's medical history and having feverish feeling, poor appetite and having nausea and vomiting for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Medical history of the respondent and her husband			Felt feverish and had poor appetite for a prolonged duration		Had nausea or episodes of vomiting for a prolonged duration	
Respondent had history of	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Blood transfusion in last 6 months (ref=no)	Yes	Unadj	**3.39(1.33-8.65)**	**0.0106**	1.38(0.51-3.68)	0.5264
		Adj	**5.29(1.87-14.98)**	**0.0017**	1.38(0.50-3.81)	0.5360
Hepatitis-B vaccination (ref=no)	Yes	Unadj	**0.65(0.45-0.93)**	**0.0171**	1.21(0.89-1.63)	0.2176
		Adj	0.73(0.50-1.07)	0.1048	1.13(0.82-1.55)	0.4498
Having Hepatitis- B (ref=no)	Yes	Unadj	1.09(0.54-2.22)	0.8117	1.70(0.84-3.45)	0.1416
		Adj	1.44(0.68-3.05)	0.3372	1.64(0.79-3.41)	0.1865
Husband had history of						
Having Hepatitis- B (ref=no)	Yes	Unadj	2.31(0.77-6.90)	0.1349	1.55(0.47-5.04)	0.4697
		Adj	**4.02(1.10-14.70)**	**0.0352**	1.95(0.51-7.56)	0.3324
Burning sensation/pain/ irritation while urinating or inflammation in the groin (ref=never)	Once	Unadj	**2.85(2.04-3.98)**	**<.0001**	**1.51(1.07-2.14)**	**0.0197**
		Adj	**2.81(1.99-3.99)**	**<.0001**	**1.56(1.09-2.23)**	**0.0145**
	More than once	Unadj	**2.10(1.37-3.22)**	**0.0007**	1.50(0.97-2.34)	0.0709
		Adj	**2.15(1.37-3.38)**	**0.0009**	1.53(0.97-2.42)	0.0675

Table 7d. Association between respondent's and her husband's medical history and having foul smelling urethral discharge in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Medical history of the respondent and her husband			Had foul smelling vaginal discharge			
			Once		More than once	
Respondent had history of	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Having Syphilis (ref=no)	Yes	Unadj	0.70(0.08-6.01)	0.7444	1.47(0.28-7.59)	0.6484
		Adj	1.00(0.11-8.78)	0.9987	1.60(0.30-8.57)	0.5847
Husband had history of						
Having Syphilis (ref=no)	Yes	Unadj	1.17(0.12-11.26)	0.8936	1.22(0.13-11.76)	0.8639
		Adj	1.26(0.13-12.62)	0.8435	1.14(0.12-11.18)	0.9126
Undergoing circumcision (ref=no)	Yes	Unadj	1.25(0.96-1.62)	0.0929	1.09(0.83-1.42)	0.5296
		Adj	1.22(0.88-1.67)	0.2279	1.22(0.88-1.69)	0.2386
Burning sensation/pain/ irritation while urinating or inflammation in the groin (ref=never)	Once	Unadj	**2.02(1.34-3.05)**	**0.0008**	**2.88(1.94-4.27)**	**<.0001**
		Adj	**2.04(1.34-3.10)**	**0.0009**	**2.75(1.84-4.11)**	**<.0001**
	More than once	Unadj	1.64(0.93-2.91)	0.0872	**3.77(2.35-6.05)**	**<.0001**
		Adj	1.53(0.85-2.77)	0.1598	**3.70(2.27-6.01)**	**<.0001**

Table 7e. Association between respondent's and her husband's medical history and having burning sensation while urinating in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Medical history of the respondent and her husband			Had burning sensation while urinating			
			Once		More than once	
Respondent had history of	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Having Syphilis (ref=no)	Yes	Unadj	3.45(0.77-15.52)	0.1062	1.02(0.11-9.18)	0.9842
		Adj	4.16(0.88-19.64)	0.0720	1.14(0.12-10.41)	0.9096
Husband had history of						
Having Syphilis (ref=no)	Yes	Unadj	1.52(0.16-14.71)	0.7157	1.36(0.14-13.17)	0.7882
		Adj	1.46(0.15-14.30)	0.7446	1.48(0.15-14.57)	0.7358
Undergoing circumcision (ref=no)	Yes	Unadj	0.96(0.72-1.28)	0.7816	1.09(0.84-1.43)	0.5185
		Adj	0.80(0.57-1.13)	0.2126	0.92(0.66-1.27)	0.5972
Burning sensation/pain/ irritation while urinating or inflammation in the groin (ref=never)	Once	Unadj	**2.32(1.51-3.56)**	**0.0001**	**3.39(2.29-5.01)**	**<.0001**
		Adj	**2.13(1.37-3.30)**	**0.0007**	**3.23(2.17-4.81)**	**<.0001**
	More than once	Unadj	1.43(0.76-2.69)	0.2729	**4.11(2.59-6.53)**	**<.0001**
		Adj	1.30(0.67-2.52)	0.4355	**3.99(2.47-6.43)**	**<.0001**

Table 7f. Association between respondent's and her husband's medical history and having ulcer in private parts in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Medical history of the respondent and her husband			Had ulcer in private parts			
			Once		More than once	
Respondent had history of	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Having Syphilis (ref=no)	Yes	Unadj	**7.30(1.45-36.82)**	**0.0160**	-	-
		Adj	**6.86(1.23-38.32)**	**0.0281**	-	-
Husband had history of						
Having Syphilis (ref=no)	Yes	Unadj	5.41(0.60-48.98)	0.1335	-	-
		Adj	7.22(0.76-68.40)	0.0849	-	-
Undergoing circumcision (ref=no)	Yes	Unadj	1.55(0.96-2.49)	0.0714	1.67(0.99-2.81)	0.0533
		Adj	1.34(0.76-2.37)	0.3124	1.16(0.62-2.15)	0.6433
Burning sensation/pain/ irritation while urinating or inflammation in the groin (ref=never)	Once	Unadj	**2.39(1.27-4.49)**	**0.0068**	**4.49(2.43-8.31)**	**<.0001**
		Adj	**2.33(1.22-4.47)**	**0.0107**	**4.89(2.56-9.33)**	**<.0001**
	More than once	Unadj	1.15(0.41-3.24)	0.7967	**3.07(1.32-7.09)**	**0.0089**
		Adj	0.95(0.29-3.14)	0.9293	**3.01(1.26-7.22)**	**0.0134**

Table 7g. Association between respondent's and her husband's medical history and having itching sensation in urethra in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Medical history of the respondent and her husband			Had itching sensation in urethra			
			Once		More than once	
Respondent had history of	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Having Syphilis (ref=no)	Yes	Unadj	**6.42(1.07-38.61)**	**0.0423**	**6.47(1.08-38.90)**	**0.0414**
		Adj	**6.93(1.11-43.22)**	**0.0381**	6.15(1.00-37.98)	0.0505
Husband had history of						
Having Syphilis (ref=no)	Yes	Unadj	1.42(0.15-13.65)	0.7643	1.43(0.15-13.76)	0.7594
		Adj	1.26(0.13-12.43)	0.8453	1.18(0.12-11.59)	0.8846
Undergoing circumcision (ref=no)	Yes	Unadj	1.12(0.86-1.48)	0.4042	1.19(0.91-1.57)	0.2070
		Adj	1.14(0.82-1.60)	0.4336	1.14(0.82-1.59)	0.4398
Burning sensation/pain/ irritation while urinating or inflammation in the groin (ref=never)	Once	Unadj	**3.76(2.51-5.65)**	**<.0001**	**4.85(3.24-7.27)**	**<.0001**
		Adj	**3.84(2.54-5.81)**	**<.0001**	**5.05(3.33-7.64)**	**<.0001**
	More than once	Unadj	**2.23(1.19-4.16)**	**0.0122**	**8.27(5.16-13.26)**	**<.0001**
		Adj	**2.16(1.13-4.13)**	**0.0204**	**8.44(5.18-13.76)**	**<.0001**

Table 7h. Association between respondent's and her husband's medical history and having pain in lower abdomen or lower back in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Medical history of the respondent and her husband			Had pain in lower abdomen or lower back			
			Once		More than once	
Respondent had history of	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Having Syphilis (ref=no)	Yes	Unadj	2.05(0.46-9.20)	0.3497	0.29(0.03-2.82)	0.2883
		Adj	2.25(0.48-10.55)	0.3029	0.32(0.03-3.15)	0.3287
Husband had history of						
Having Syphilis (ref=no)	Yes	Unadj	1.53(0.22-10.91)	0.6709	0.44(0.04-4.87)	0.5034
		Adj	1.68(0.22-12.67)	0.6129	0.47(0.04-5.23)	0.5379
Undergoing circumcision (ref=no)	Yes	Unadj	**1.33(1.02-1.73)**	**0.0331**	1.25(0.99-1.57)	0.0572
		Adj	1.09(0.79-1.50)	0.6150	1.21(0.92-1.60)	0.1778
Burning sensation/pain/ irritation while urinating or inflammation in the groin (ref=never)	Once	Unadj	**1.99(1.22-3.23)**	**0.0057**	**2.99(1.96-4.55)**	**<.0001**
		Adj	**1.96(1.19-3.23)**	**0.0081**	**3.02(1.97-4.65)**	**<.0001**
	More than once	Unadj	1.78(0.78-4.08)	0.1735	**7.03(3.68-13.40)**	**<.0001**
		Adj	1.92(0.80-4.61)	0.1435	**8.00(4.06-15.77)**	**<.0001**

Table 7i. Association between respondent's and her husband's medical history and having inflammation/swelling in groin in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Medical history of the respondent and her husband			Had inflammation/swelling in groin			
			Once		More than once	
Respondent had history of	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Having Syphilis (ref=no)	Yes	Unadj	4.71(0.56-39.76)	0.1549	4.79(0.57-40.51)	0.1501
		Adj	5.94(0.63-55.61)	0.1185	3.97(0.43-37.15)	0.2266
Husband had history of						
Undergoing circumcision (ref=no)	Yes	Unadj	1.28(0.74-2.19)	0.3749	1.53(0.89-2.62)	0.1243
		Adj	0.96(0.51-1.83)	0.9101	1.10(0.58-2.08)	0.7756
Burning sensation/pain/ irritation while urinating or inflammation in the groin (ref=never)	Once	Unadj	**3.92(2.07-7.45)**	**<.0001**	**5.53(2.94-10.41)**	**<.0001**
		Adj	**3.85(1.98-7.48)**	**<.0001**	**5.16(2.62-10.16)**	**<.0001**
	More than once	Unadj	2.25(0.86-5.88)	0.0981	**4.99(2.29-10.87)**	**<.0001**
		Adj	2.63(0.98-7.08)	0.0555	**4.40(1.89-10.27)**	**0.0006**

Table 7j. Association between respondent's sexual behavior/experience and having yellowish discoloration of urine and eye/skin for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior/experiences of the respondent			Had yellowish/dark colored urine for a sustained period		Yellowish discoloration of eyes or skin for a prolonged duration	
Variables	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age in years at first sex (ref=<15)	15-18	Unadj	0.83(0.58-1.20)	0.3259	**0.58(0.36-0.94)**	**0.0261**
		Adj	0.92(0.63-1.35)	0.6845	0.67(0.39-1.13)	0.1328
	19-35	Unadj	0.83(0.57-1.21)	0.3333	**0.47(0.28-0.80)**	**0.0055**
		Adj	1.08(0.69-1.71)	0.7288	0.78(0.40-1.53)	0.4754
	>35	Unadj	1.66(0.57-4.79)	0.3531	0.91(0.20-4.24)	0.9029
		Adj	2.31(0.76-7.07)	0.1424	1.07(0.20-5.65)	0.9401
Had first sex before marriage? (ref=No)	Yes	Unadj	1.30(0.89-1.90)	0.1773	1.28(0.73-2.25)	0.3895
		Adj	1.31(0.89-1.93)	0.1776	1.56(0.86-2.82)	0.1443
Ever was forced to have sex (ref=No)	Yes, by husband	Unadj	**1.28(1.01-1.64)**	**0.0442**	1.36(0.93-2.00)	0.1115
		Adj	**1.34(1.04-1.74)**	**0.0266**	1.16(0.77-1.75)	0.4889
	Yes, by someone else	Unadj	1.26(0.65-2.44)	0.4862	1.76(0.71-4.36)	0.2227
		Adj	1.29(0.65-2.54)	0.4667	1.41(0.53-3.78)	0.4898
Ever had anal sex (ref=No)	Yes	Unadj	**1.41(1.12-1.78)**	**0.0034**	**1.93(1.33-2.81)**	**0.0006**
		Adj	**1.36(1.07-1.73)**	**0.0133**	**1.49(1.00-2.21)**	**0.0480**
Ever anyone had sex with you after consuming alcohol (ref=No)	Yes	Unadj	**1.52(1.21-1.90)**	**0.0003**	1.16(0.82-1.64)	0.4116
		Adj	**1.61(1.26-2.06)**	**0.0001**	1.16(0.79-1.71)	0.4408
Before planning for a baby, did your husband use condoms during having sex with you? (ref=No)	Yes	Unadj	**1.59(1.25-2.01)**	**0.0001**	**2.13(1.50-3.01)**	**<.0001**
		Adj	**1.49(1.17-1.89)**	**0.0012**	**2.13(1.47-3.07)**	**<.0001**
Have male sex partner other than husband (ref=No)	Yes	Unadj	**4.18(2.66-6.57)**	**<.0001**	**11.31(6.99-18.29)**	**<.0001**
		Adj	**4.22(2.61-6.83)**	**<.0001**	**9.74(5.65-16.78)**	**<.0001**
For sex with male partner other than husband were you ever offered money?	Yes (ref=No)	Unadj	**4.40(1.71-11.34)**	**0.0022**	**4.38(1.64-11.67)**	**0.0032**
		Adj	**16.01(3.65-70.31)**	**0.0002**	**7.47(1.72-32.47)**	**0.0074**
For sex with male partner other than husband ever accepted any gifts/money	Yes (ref=No)	Unadj	**2.81(1.13-6.98)**	**0.0257**	**4.11(1.57-10.71)**	**0.0039**
		Adj	**10.88(2.40-49.42)**	**0.0020**	**15.08(2.50-91.01)**	**0.0031**
Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers (ref=No)	Yes	Unadj	**3.18(1.28-7.90)**	**0.0129**	**9.17(3.25-25.93)**	**<.0001**
		Adj	**7.97(2.24-28.40)**	**0.0014**	**13.03(3.16-53.74)**	**0.0004**
In the last 6 months, no. of injection received from a nurse/compounder/any health worker? (ref=Never)	1 to 2 times	Unadj	1.12(0.60-2.09)	0.7248	1.34(0.48-3.75)	0.5780
		Adj	1.00(0.53-1.91)	0.9932	0.95(0.32-2.79)	0.9226
	More than two times	Unadj	1.77(0.88-3.54)	0.1069	1.44(0.46-4.52)	0.5322
		Adj	1.58(0.77-3.23)	0.2128	1.08(0.33-3.60)	0.8981

Table 7k. Association between respondent's sexual behavior/experience and having feverish feeling, poor appetite and having nausea and vomiting for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior/experiences of the respondent			Felt feverish and had poor appetite for a prolonged duration		Had nausea or episodes of vomiting for a prolonged duration	
Variables	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age in years at first sex (ref=<15)	15-18	Unadj	1.01(0.71-1.44)	0.9482	1.15(0.83-1.58)	0.4020
		Adj	1.12(0.77-1.62)	0.5687	1.04(0.74-1.46)	0.8187
	19-35	Unadj	0.80(0.55-1.16)	0.2419	0.99(0.71-1.39)	0.9663
		Adj	1.26(0.81-1.98)	0.3079	0.90(0.60-1.34)	0.6052
	>35	Unadj	0.35(0.08-1.61)	0.1782	1.23(0.43-3.52)	0.7042
		Adj	0.47(0.10-2.25)	0.3457	1.59(0.51-4.98)	0.4222
Had first sex before marriage? (ref=No)	Yes	Unadj	1.14(0.78-1.66)	0.4955	1.25(0.88-1.78)	0.2192
		Adj	1.32(0.89-1.95)	0.1683	1.25(0.87-1.80)	0.2213
Ever was forced to have sex (ref=No)	Yes, by husband	Unadj	**1.33(1.05-1.67)**	**0.0181**	1.06(0.87-1.31)	0.5608
		Adj	1.21(0.94-1.55)	0.1360	1.11(0.89-1.38)	0.3525
	Yes, by someone else	Unadj	**2.22(1.24-3.98)**	**0.0077**	0.83(0.47-1.46)	0.5069
		Adj	**2.16(1.17-3.99)**	**0.0144**	0.93(0.52-1.68)	0.8159
Ever had anal sex (ref=No)	Yes	Unadj	**1.81(1.45-2.27)**	**<.0001**	1.07(0.88-1.30)	0.4954
		Adj	**1.60(1.27-2.03)**	**<.0001**	1.13(0.92-1.40)	0.2318
Ever anyone had sex with you after consuming alcohol (ref=No)	Yes	Unadj	1.16(0.93-1.44)	0.1896	0.96(0.78-1.16)	0.6464
		Adj	1.26(0.99-1.60)	0.0584	1.03(0.83-1.28)	0.7742
Before planning for a baby, did your husband use condoms during having sex with you? (ref=No)	Yes	Unadj	**1.61(1.29-2.02)**	**<.0001**	**1.26(1.02-1.56)**	**0.0318**
		Adj	**1.60(1.27-2.02)**	**<.0001**	**1.32(1.06-1.64)**	**0.0134**
Have male sex partner other than husband (ref=No)	Yes	Unadj	**2.36(1.50-3.70)**	**0.0002**	**0.50(0.32-0.79)**	**0.0029**
		Adj	**1.86(1.15-3.00)**	**0.0116**	**0.58(0.36-0.93)**	**0.0223**
For sex with male partner other than husband were you ever offered money? (ref=No)	Yes	Unadj	1.25(0.51-3.05)	0.6260	**0.30(0.12-0.75)**	**0.0100**
		Adj	1.06(0.34-3.35)	0.9208	**0.25(0.07-0.87)**	**0.0293**
For sex with male partner other than husband ever accepted any gifts/money (ref=No)	Yes	Unadj	1.22(0.51-2.96)	0.6567	0.45(0.18-1.11)	0.0814
		Adj	1.71(0.50-5.85)	0.3896	0.54(0.15-1.91)	0.3389
Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers	Yes (ref=No)	Unadj	1.97(0.81-4.81)	0.1353	0.59(0.24-1.44)	0.2476
		Adj	1.74(0.61-4.97)	0.3024	0.74(0.23-2.31)	0.5985
In the last 6 months, no. of injection received from a nurse/compounder/any health worker? (ref=Never)	1 to 2 times	Unadj	0.80(0.46-1.40)	0.4390	0.84(0.50-1.42)	0.5213
		Adj	0.64(0.35-1.16)	0.1376	0.75(0.43-1.32)	0.3207
	More than two times	Unadj	1.22(0.65-2.28)	0.5419	0.99(0.54-1.81)	0.9720
		Adj	0.94(0.48-1.84)	0.8508	0.90(0.47-1.70)	0.7393

Table 7l. Association between respondent's sexual behavior/experience and having foul smelling urethral discharge in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior/experiences of the respondent			Had foul smelling vaginal discharge			
			Once		More than once	
Variables	Categories	OR	OR (95%CI)	p value	OR (95%CI)	p value
Age in years at first sex (ref=<15)	15-18	Unadj	1.49(0.95-2.34)	0.0809	0.98(0.65-1.48)	0.9187
		Adj	**1.70(1.06-2.74)**	**0.0287**	1.00(0.65-1.54)	0.9897
	19-35	Unadj	1.13(0.71-1.81)	0.6127	0.91(0.59-1.40)	0.6596
		Adj	**1.79(1.02-3.16)**	**0.0427**	0.94(0.56-1.57)	0.8032
	>35	Unadj	0.38(0.05-3.02)	0.3584	0.87(0.23-3.26)	0.8381
		Adj	0.61(0.07-5.04)	0.6478	0.90(0.23-3.53)	0.8839
Had first sex before marriage? (ref=No)	Yes	Unadj	0.61(0.36-1.04)	0.0704	1.36(0.90-2.07)	0.1427
		Adj	0.63(0.37-1.08)	0.0933	1.32(0.86-2.01)	0.2036
Ever was forced to have sex (ref=No)	Yes, by husband	Unadj	**1.74(1.31-2.32)**	**0.0001**	1.15(0.87-1.51)	0.3259
		Adj	**1.58(1.17-2.14)**	**0.0028**	1.12(0.84-1.50)	0.4424
	Yes, by someone else	Unadj	1.47(0.68-3.21)	0.3300	1.56(0.77-3.14)	0.2137
		Adj	1.38(0.62-3.08)	0.4292	1.54(0.75-3.16)	0.2425
Ever had anal sex (ref=No)	Yes	Unadj	1.27(0.98-1.64)	0.0742	0.96(0.74-1.24)	0.7367
		Adj	1.20(0.91-1.57)	0.1994	0.88(0.67-1.16)	0.3658
Ever anyone had sex with you after consuming alcohol (ref=No)	Yes	Unadj	**1.34(1.04-1.73)**	**0.0258**	1.20(0.92-1.56)	0.1778
		Adj	**1.34(1.01-1.76)**	**0.0402**	1.11(0.84-1.47)	0.4735
Before planning for a baby, did your husband use condoms during sex with you? (ref=No)	Yes	Unadj	1.15(0.88-1.51)	0.3007	1.06(0.80-1.40)	0.6861
		Adj	1.14(0.86-1.50)	0.3631	1.06(0.80-1.41)	0.6929
Have male sex partner other than husband (ref=No)	Yes	Unadj	0.82(0.44-1.52)	0.5283	0.86(0.46-1.59)	0.6267
		Adj	0.81(0.43-1.55)	0.5291	0.81(0.43-1.55)	0.5239
For sex with male partner other than husband were you ever offered money?	Yes (ref=No)	Unadj	1.05(0.31-3.52)	0.9421	**10.76(1.31-88.47)**	**0.0272**
		Adj	4.56(0.54-38.97)	0.1653	-	-
For sex with male partner other than husband ever accepted any gifts/money	Yes (ref=No)	Unadj	0.56(0.16-1.93)	0.3585	**10.75(1.31-88.44)**	**0.0272**
		Adj	0.95(0.11-8.11)	0.9649	-	-
Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers (ref=No)	Yes	Unadj	0.57(0.17-1.93)	0.3673	0.30(0.08-1.08)	0.0657
		Adj	0.68(0.10-4.67)	0.6955	**0.07(0.01-0.73)**	**0.0262**

Table 7m. Association between respondent's sexual behavior/experience and having burning sensation while urinating in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior/experiences of the respondent			Had burning sensation while urinating			
			Once		More than once	
Variables	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age in years at first sex (ref=<15)	15-18	Unadj	0.97(0.62-1.50)	0.8729	1.25(0.80-1.96)	0.3362
		Adj	0.92(0.58-1.46)	0.7318	1.36(0.84-2.19)	0.2077
	19-35	Unadj	0.86(0.54-1.36)	0.5055	1.04(0.65-1.67)	0.8701
		Adj	0.76(0.44-1.31)	0.3243	1.14(0.65-2.00)	0.6423
	>35	Unadj	0.85(0.18-4.07)	0.8352	1.89(0.55-6.46)	0.3130
		Adj	0.98(0.19-4.94)	0.9788	2.47(0.68-8.95)	0.1697
Had first sex before marriage? (ref=No)	Yes	Unadj	1.09(0.68-1.76)	0.7216	1.06(0.67-1.68)	0.8062
		Adj	1.11(0.68-1.81)	0.6723	1.05(0.66-1.68)	0.8293
Ever was forced to have sex (ref=No)	Yes, by husband	Unadj	**1.89(1.38-2.59)**	**<.0001**	1.23(0.93-1.62)	0.1509
		Adj	**1.91(1.37-2.66)**	**0.0001**	1.29(0.96-1.73)	0.0946
	Yes, by someone else	Unadj	1.87(0.86-4.09)	0.1164	1.23(0.57-2.66)	0.5923
		Adj	2.00(0.90-4.46)	0.0912	1.37(0.62-3.02)	0.4416
Ever had anal sex (ref=No)	Yes	Unadj	**1.37(1.03-1.81)**	**0.0294**	1.18(0.90-1.53)	0.2291
		Adj	1.26(0.94-1.69)	0.1188	1.17(0.89-1.54)	0.2645
Ever anyone had sex with you after consuming alcohol (ref=No)	Yes	Unadj	**1.47(1.11-1.93)**	**0.0065**	1.18(0.91-1.54)	0.2204
		Adj	**1.48(1.10-1.99)**	**0.0092**	1.25(0.94-1.67)	0.1187
Before planning for a baby, did your husband use condoms during having sex with you? (ref=No)	Yes	Unadj	1.05(0.78-1.41)	0.7524	1.13(0.86-1.49)	0.3905
		Adj	1.07(0.79-1.44)	0.6825	1.07(0.81-1.42)	0.6396
Have male sex partner other than husband (ref=No)	Yes	Unadj	1.10(0.58-2.10)	0.7717	1.60(0.93-2.75)	0.0928
		Adj	1.07(0.55-2.09)	0.8445	1.46(0.82-2.61)	0.1981
For sex with male partner other than husband were you ever offered money?	Yes (ref=No)	Unadj	1.10(0.31-3.94)	0.8836	1.70(0.56-5.20)	0.3507
		Adj	0.92(0.14-6.26)	0.9342	1.14(0.27-4.80)	0.8626
For sex with male partner other than husband ever accepted any gifts/money	Yes (ref=No)	Unadj	1.85(0.49-6.93)	0.3636	1.58(0.54-4.68)	0.4070
		Adj	6.71(0.41-109.21)	0.1808	1.16(0.27-5.02)	0.8441
Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers (ref=No)	Yes	Unadj	1.19(0.33-4.27)	0.7866	0.77(0.27-2.21)	0.6227
		Adj	1.16(0.19-7.00)	0.8707	0.58(0.15-2.22)	0.4273

Table 7n. Association between respondent's sexual behavior/experience and having ulcer in private parts in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior/experiences of the respondent			Had ulcer in private parts			
			Once		More than once	
Variables	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age in years at first sex (ref=<15)	15-18	Unadj	0.75(0.37-1.54)	0.4384	0.68(0.32-1.46)	0.3188
		Adj	0.73(0.34-1.55)	0.4157	0.65(0.29-1.45)	0.2899
	19-35	Unadj	0.75(0.35-1.60)	0.4573	0.60(0.27-1.36)	0.2231
		Adj	0.63(0.26-1.54)	0.3140	0.79(0.30-2.12)	0.6433
	>35	Unadj	-	-	2.62(0.52-13.32)	0.2459
		Adj	-	-	2.86(0.51-16.19)	0.2346
Had first sex before marriage? (ref=No)	Yes	Unadj	0.62(0.22-1.72)	0.3549	1.41(0.63-3.17)	0.4036
		Adj	0.60(0.21-1.72)	0.3443	1.57(0.68-3.65)	0.2921
Ever was forced to have sex (ref=No)	Yes, by husband	Unadj	0.98(0.60-1.62)	0.9466	**2.38(1.22-4.64)**	**0.0112**
		Adj	0.97(0.57-1.65)	0.9144	1.93(0.96-3.87)	0.0642
	Yes, by someone else	Unadj	1.43(0.42-4.90)	0.5710	**4.50(1.38-14.71)**	**0.0128**
		Adj	1.49(0.41-5.36)	0.5464	**4.01(1.16-13.89)**	**0.0283**
Ever had anal sex (ref=No)	Yes	Unadj	1.00(0.62-1.61)	1.0000	**2.35(1.30-4.25)**	**0.0049**
		Adj	0.95(0.58-1.56)	0.8371	**2.15(1.15-4.04)**	**0.0167**
Ever anyone had sex with you after consuming alcohol (ref=No)	Yes	Unadj	1.32(0.82-2.12)	0.2518	1.01(0.60-1.72)	0.9679
		Adj	1.34(0.80-2.24)	0.2596	1.03(0.58-1.82)	0.9173
Before planning for a baby, did your husband use condoms during having sex with you? (ref=No)	Yes	Unadj	0.82(0.49-1.39)	0.4629	1.36(0.80-2.33)	0.2547
		Adj	0.70(0.40-1.22)	0.2066	1.33(0.77-2.31)	0.3080
Have male sex partner other than husband (ref=No)	Yes	Unadj	0.86(0.27-2.80)	0.8032	1.44(0.51-4.08)	0.4927
		Adj	0.59(0.17-2.06)	0.4113	0.91(0.30-2.74)	0.8631
For sex with male partner other than husband were you ever offered money?	Yes (ref=No)	Unadj	1.52(0.13-17.56)	0.7355	-	-
		Adj	-	-	-	-
For sex with male partner other than husband ever accepted any gifts/money	Yes (ref=No)	Unadj	1.61(0.14-18.54)	0.7026	2.42(0.24-24.30)	0.4543
		Adj	-	-	-	-
Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers (ref=No)	Yes	Unadj	-	-	0.81(0.11-6.02)	0.8326
		Adj	-	-	-	-

Table 7o. Association between respondent's sexual behavior/experience and having itching sensation in urethra in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior/experiences of the respondent			Had itching sensation in urethra			
			Once		More than once	
Variables	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age in years at first sex (ref=<15)	15-18	Unadj	1.15(0.74-1.80)	0.5374	1.29(0.80-2.06)	0.2952
		Adj	1.12(0.70-1.78)	0.6435	1.36(0.83-2.23)	0.2198
	19-35	Unadj	1.12(0.70-1.78)	0.6435	1.40(0.86-2.28)	0.1761
		Adj	1.02(0.59-1.77)	0.9442	1.39(0.79-2.46)	0.2544
	>35	Unadj	0.36(0.05-2.89)	0.3380	0.85(0.18-3.99)	0.8328
		Adj	0.35(0.04-2.85)	0.3243	1.05(0.21-5.10)	0.9568
Had first sex before marriage? (ref=No)	Yes	Unadj	1.12(0.70-1.77)	0.6453	1.07(0.67-1.72)	0.7641
		Adj	1.12(0.70-1.80)	0.6270	1.01(0.63-1.63)	0.9612
Ever was forced to have sex (ref=No)	Yes, by husband	Unadj	1.18(0.89-1.58)	0.2474	0.86(0.65-1.14)	0.2941
		Adj	1.20(0.88-1.62)	0.2451	0.86(0.64-1.16)	0.3119
	Yes, by someone else	Unadj	1.03(0.44-2.42)	0.9409	1.62(0.82-3.19)	0.1661
		Adj	0.93(0.37-2.33)	0.8726	1.65(0.82-3.32)	0.1602
Ever had anal sex (ref=No)	Yes	Unadj	1.25(0.95-1.64)	0.1092	1.20(0.91-1.57)	0.1984
		Adj	1.26(0.94-1.67)	0.1172	1.15(0.87-1.53)	0.3261
Ever anyone had sex with you after consuming alcohol	Yes (ref=No)	Unadj	**1.43(1.09-1.87)**	**0.0089**	1.19(0.91-1.56)	0.2060
		Adj	**1.46(1.10-1.95)**	**0.0099**	1.26(0.94-1.68)	0.1252
Before planning for a baby, did your husband use condoms during having sex with you?	Yes (ref=No)	Unadj	1.06(0.80-1.41)	0.7006	1.16(0.88-1.54)	0.2935
		Adj	1.08(0.81-1.45)	0.6020	1.13(0.85-1.51)	0.4096
Have male sex partner other than husband (ref=No)	Yes	Unadj	1.38(0.77-2.46)	0.2768	1.30(0.72-2.35)	0.3887
		Adj	1.36(0.74-2.51)	0.3198	1.25(0.67-2.33)	0.4804
For sex with male partner other than husband were you ever offered money?	Yes (ref=No)	Unadj	1.42(0.45-4.51)	0.5520	2.34(0.66-8.36)	0.1898
		Adj	1.85(0.35-9.72)	0.4655	3.69(0.69-19.69)	0.1264
For sex with male partner other than husband ever accepted any gifts/money	Yes (ref=No)	Unadj	1.81(0.57-5.73)	0.3157	**4.33(1.09-17.25)**	**0.0375**
		Adj	3.81(0.59-24.76)	0.1610	**25.09(1.65-381.54)**	**0.0203**
Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers (ref=No)	Yes	Unadj	1.81(0.57-5.73)	0.3157	1.63(0.50-5.25)	0.4171
		Adj	3.02(0.60-15.23)	0.1809	2.33(0.51-10.55)	0.2733

Table 7p. Association between respondent's sexual behavior/experience and having pain in lower abdomen or lower back in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior/experiences of the respondent			Had pain in lower abdomen or lower back			
			Once		More than once	
Variables	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age in years at first sex (ref=<15)	15-18	Unadj	1.46(0.96-2.21)	0.0780	**1.53(1.06-2.20)**	**0.0220**
		Adj	1.55(1.00-2.41)	0.0504	**1.52(1.04-2.22)**	**0.0292**
	19-35	Unadj	1.29(0.83-2.00)	0.2518	**1.57(1.08-2.29)**	**0.0188**
		Adj	1.56(0.92-2.64)	0.0964	**1.59(1.02-2.49)**	**0.0403**
	>35	Unadj	0.68(0.17-2.64)	0.5734	0.57(0.17-1.94)	0.3697
		Adj	0.84(0.20-3.46)	0.8081	0.65(0.18-2.29)	0.4974
Had first sex before marriage? (ref=No)	Yes	Unadj	0.76(0.47-1.25)	0.2808	1.20(0.82-1.75)	0.3576
		Adj	0.80(0.48-1.32)	0.3780	1.19(0.81-1.76)	0.3841
Ever was forced to have sex (ref=No)	Yes, by husband	Unadj	1.24(0.94-1.62)	0.1259	0.99(0.79-1.24)	0.9194
		Adj	1.27(0.95-1.71)	0.1048	1.04(0.81-1.33)	0.7550
	Yes, by someone else	Unadj	1.32(0.61-2.88)	0.4854	1.33(0.69-2.56)	0.4016
		Adj	1.17(0.52-2.65)	0.7065	1.40(0.71-2.74)	0.3299
Ever had anal sex (ref=No)	Yes	Unadj	**1.35(1.04-1.74)**	**0.0241**	1.17(0.94-1.46)	0.1592
		Adj	1.28(0.98-1.69)	0.0741	1.21(0.96-1.52)	0.1085
Ever anyone had sex with you after consuming alcohol (ref=No)	Yes	Unadj	**1.40(1.08-1.81)**	**0.0105**	1.12(0.89-1.40)	0.3375
		Adj	**1.59(1.20-2.10)**	**0.0013**	1.24(0.97-1.57)	0.0856
Before planning for a baby, did your husband use condoms during having sex with you?	Yes (ref=No)	Unadj	1.20(0.91-1.58)	0.1882	1.23(0.97-1.56)	0.0837
		Adj	1.21(0.91-1.60)	0.1961	1.21(0.95-1.54)	0.1316
Have male sex partner other than husband	Yes (ref=No)	Unadj	1.12(0.61-2.06)	0.7082	1.23(0.74-2.07)	0.4255
		Adj	0.95(0.51-1.80)	0.8830	1.32(0.77-2.28)	0.3097
For sex with male partner other than husband were you ever offered money? (ref=No)	Yes	Unadj	0.76(0.22-2.66)	0.6698	0.44(0.15-1.28)	0.1333
		Adj	2.24(0.32-15.57)	0.4169	0.50(0.12-2.07)	0.3393
For sex with male partner other than husband ever accepted any gifts/money (ref=No)	Yes	Unadj	1.35(0.39-4.72)	0.6344	0.56(0.20-1.56)	0.2669
		Adj	7.20(0.76-68.31)	0.0856	0.66(0.15-2.86)	0.5829
Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers (ref=No)	Yes	Unadj	0.91(0.26-3.12)	0.8776	**0.34(0.12-0.96)**	**0.0422**
		Adj	3.72(0.55-25.02)	0.1763	0.38(0.09-1.55)	0.1790

Table 7q. Association between respondent's sexual behavior/experience and having inflammation/swelling in groin in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior/experiences of the respondent			Had inflammation/swelling in groin			
			Once		More than once	
Variables	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age in years at first sex (ref=<15)	15-18	Unadj	1.97(0.69-5.60)	0.2030	0.88(0.38-2.05)	0.7713
		Adj	2.68(0.79-9.08)	0.1136	0.96(0.40-2.31)	0.9275
	19-35	Unadj	1.16(0.38-3.55)	0.7913	0.84(0.35-2.04)	0.7018
		Adj	1.53(0.37-6.35)	0.5597	0.77(0.27-2.18)	0.6211
	>35	Unadj	-	-	-	-
		Adj	-	-	-	-
Had first sex before marriage? (ref=No)	Yes	Unadj	1.80(0.84-3.89)	0.1336	1.08(0.42-2.76)	0.8704
		Adj	2.04(0.92-4.54)	0.0798	1.10(0.42-2.88)	0.8435
Ever was forced to have sex (ref=No)	Yes, by husband	Unadj	0.95(0.54-1.67)	0.8622	0.87(0.49-1.54)	0.6205
		Adj	0.95(0.52-1.75)	0.8755	0.71(0.38-1.31)	0.2747
	Yes, by someone else	Unadj	1.89(0.54-6.60)	0.3194	**3.15(1.13-8.79)**	**0.0286**
		Adj	1.92(0.52-7.01)	0.3264	2.72(0.89-8.32)	0.0791
Ever had anal sex (ref=No)	Yes	Unadj	1.08(0.63-1.85)	0.7843	**3.64(1.82-7.27)**	**0.0003**
		Adj	1.08(0.61-1.91)	0.7902	**3.03(1.48-6.20)**	**0.0024**
Ever anyone had sex with you after consuming alcohol (ref=No)	Yes	Unadj	1.04(0.61-1.79)	0.8829	**2.08(1.21-3.59)**	**0.0085**
		Adj	1.08(0.60-1.95)	0.7978	1.79(1.00-3.22)	0.0516
Before planning for a baby, did your husband use condoms during having sex with you?	Yes (ref=No)	Unadj	0.87(0.48-1.56)	0.6365	**1.94(1.13-3.34)**	**0.0158**
		Adj	0.85(0.47-1.56)	0.6031	**1.85(1.05-3.26)**	**0.0322**
Have male sex partner other than husband	Yes (ref=No)	Unadj	2.18(0.84-5.65)	0.1074	**4.36(2.05-9.27)**	**0.0001**
		Adj	2.33(0.85-6.41)	0.1012	**2.79(1.21-6.40)**	**0.0158**
For sex with male partner other than husband were you ever offered money? (ref=No)	Yes	Unadj	1.01(0.16-6.47)	0.9895	0.84(0.21-3.43)	0.8123
		Adj	-	-	0.36(0.05-2.79)	0.3298
For sex with male partner other than husband ever accepted any gifts/money (ref=No)	Yes	Unadj	1.08(0.17-6.88)	0.9376	0.57(0.14-2.33)	0.4381
		Adj	-	-	0.31(0.04-2.64)	0.2861
Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers (ref=No)	Yes	Unadj	0.51(0.08-3.25)	0.4748	0.38(0.09-1.66)	0.1983
		Adj	-	-	0.12(0.01-1.19)	0.0704

Table 8a. Association between husband's sexual behavior and having yellowish discoloration of urine and eye/skin for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior of the husband			Had yellowish/dark colored urine for a sustained period		Yellowish discoloration of eyes or skin for a prolonged duration	
Variables	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Consumption of alcohol by husband before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	**1.53(1.15-2.02)**	**0.0034**	1.07(0.68-1.68)	0.7737
		Adj	**1.67(1.23-2.27)**	**0.0011**	1.35(0.81-2.23)	0.2469
	Almost always	Unadj	**3.05(1.58-5.91)**	**0.0009**	**3.15(1.41-7.06)**	**0.0053**
		Adj	**2.84(1.41-5.70)**	**0.0034**	1.87(0.74-4.75)	0.1869
During your pregnancy did your husband have sex with you? (ref=No)	Yes	Unadj	1.28(0.98-1.67)	0.0686	0.69(0.47-1.01)	0.0535
		Adj	1.31(0.99-1.73)	0.0551	0.74(0.49-1.11)	0.1465
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	**2.55(1.79-3.62)**	**<.0001**	**8.92(5.98-13.32)**	**<.0001**
		Adj	**2.58(1.76-3.77)**	**<.0001**	**7.93(5.00-12.58)**	**<.0001**
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	**2.96(1.99-4.41)**	**<.0001**	**9.09(5.86-14.10)**	**<.0001**
		Adj	**2.82(1.84-4.31)**	**<.0001**	**7.08(4.32-11.59)**	**<.0001**
Suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	**2.42(1.71-3.43)**	**<.0001**	**7.53(5.04-11.25)**	**<.0001**
		Adj	**2.28(1.58-3.29)**	**<.0001**	**6.28(4.03-9.79)**	**<.0001**
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	**4.63(2.86-7.49)**	**<.0001**	**12.47(7.54-20.61)**	**<.0001**
		Adj	**4.65(2.80-7.73)**	**<.0001**	**10.58(6.03-18.56)**	**<.0001**

Table 8b. Association between husband's sexual behavior and having feverish feeling, poor appetite and having nausea and vomiting for a prolonged period in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior of the husband			Felt feverish and had poor appetite for a prolonged duration		Had nausea or episodes of vomiting for a prolonged duration	
Variables	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Consumption of alcohol by husband before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	1.12(0.85-1.48)	0.4312	1.05(0.81-1.36)	0.7021
		Adj	1.29(0.95-1.75)	0.1088	1.15(0.87-1.52)	0.3212
	Almost always	Unadj	1.01(0.48-2.11)	0.9804	1.14(0.58-2.23)	0.7051
		Adj	0.96(0.44-2.07)	0.9134	1.45(0.71-2.97)	0.3075
During your pregnancy did your husband have sex with you? (ref=No)	Yes	Unadj	1.02(0.80-1.30)	0.8841	**1.61(1.29-2.00)**	**<.0001**
		Adj	1.05(0.81-1.36)	0.7184	**1.49(1.19-1.87)**	**0.0005**
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	**1.93(1.36-2.74)**	**0.0002**	1.01(0.72-1.43)	0.9492
		Adj	**1.58(1.08-2.31)**	**0.0185**	1.18(0.82-1.72)	0.3746
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	**1.80(1.20-2.70)**	**0.0044**	0.74(0.50-1.09)	0.1285
		Adj	1.31(0.85-2.02)	0.2198	0.84(0.55-1.27)	0.4114
Suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	**1.67(1.18-2.38)**	**0.0039**	0.81(0.58-1.14)	0.2225
		Adj	1.40(0.97-2.04)	0.0743	0.92(0.64-1.30)	0.6235
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	**1.86(1.14-3.01)**	**0.0122**	0.76(0.47-1.21)	0.2478
		Adj	1.44(0.86-2.41)	0.1627	0.90(0.55-1.48)	0.6860

Table 8c. Association between husband's sexual behavior and having foul smelling vaginal discharge in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior of the husband			Had foul smelling vaginal discharge			
			Once		More than once	
Variables	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Consumption of alcohol by husband before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	**1.50(1.10-2.06)**	**0.0112**	1.12(0.80-1.59)	0.5046
		Adj	**1.44(1.02-2.03)**	**0.0359**	1.05(0.73-1.52)	0.7844
	Almost always	Unadj	0.49(0.15-1.64)	0.2463	1.81(0.87-3.78)	0.1114
		Adj	0.47(0.14-1.62)	0.2316	1.51(0.69-3.29)	0.3001
During your pregnancy did your husband have sex with you? (ref=No)	Yes	Unadj	**1.62(1.19-2.21)**	**0.0024**	**1.41(1.04-1.89)**	**0.0257**
		Adj	**1.51(1.10-2.08)**	**0.0116**	**1.47(1.08-2.00)**	**0.0156**
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	1.23(0.79-1.92)	0.3591	1.49(0.98-2.28)	0.0653
		Adj	1.24(0.78-2.00)	0.3658	1.47(0.93-2.32)	0.1014
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	1.22(0.73-2.04)	0.4473	1.55(0.95-2.51)	0.0784
		Adj	1.33(0.78-2.28)	0.2971	1.62(0.97-2.71)	0.0655
Suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	1.30(0.83-2.02)	0.2525	**2.02(1.35-3.01)**	**0.0006**
		Adj	1.34(0.84-2.13)	0.2150	**2.04(1.34-3.11)**	**0.0009**
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	1.14(0.60-2.17)	0.6807	**1.79(1.02-3.14)**	**0.0429**
		Adj	1.19(0.61-2.31)	0.6157	**1.86(1.03-3.35)**	**0.0395**

Table 8d. Association between husband's sexual behavior and having burning sensation while urinating in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior of the husband			Had burning sensation while urinating			
			Once		More than once	
Variables	Categories	OR	OR (95%CI)	p value	OR (95%CI)	p value
Consumption of alcohol by husband before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	**1.46(1.04-2.05)**	**0.0273**	1.12(0.79-1.59)	0.5218
		Adj	**1.51(1.05-2.17)**	**0.0277**	1.24(0.86-1.80)	0.2523
	Almost always	Unadj	0.67(0.20-2.25)	0.5116	**2.33(1.14-4.78)**	**0.0209**
		Adj	0.63(0.18-2.18)	0.4685	**2.25(1.05-4.86)**	**0.0382**
During your pregnancy did your husband have sex with you? (ref=No)	Yes	Unadj	**1.47(1.07-2.02)**	**0.0192**	**1.87(1.35-2.60)**	**0.0002**
		Adj	**1.49(1.07-2.08)**	**0.0198**	**1.86(1.33-2.61)**	**0.0003**
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	1.36(0.85-2.18)	0.1946	**1.76(1.16-2.67)**	**0.0079**
		Adj	1.29(0.77-2.14)	0.3303	**1.73(1.11-2.71)**	**0.0161**
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	1.29(0.74-2.25)	0.3667	**2.05(1.29-3.26)**	**0.0023**
		Adj	1.23(0.68-2.22)	0.5029	**1.92(1.17-3.13)**	**0.0098**
Suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	1.08(0.66-1.75)	0.7711	**1.55(1.02-2.35)**	**0.0400**
		Adj	1.06(0.64-1.75)	0.8295	1.39(0.90-2.16)	0.1400
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	1.09(0.54-2.20)	0.8097	**2.02(1.17-3.50)**	**0.0121**
		Adj	1.09(0.52-2.25)	0.8265	**1.88(1.06-3.36)**	**0.0324**

Table 8e. Association between husband's sexual behavior and having ulcer in private parts in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior of the husband			Had ulcer in private parts			
			Once		More than once	
Variables	Categories	OR	OR (95%CI)	p value	OR (95%CI)	p value
Consumption of alcohol by husband before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	**1.96(1.15-3.36)**	**0.0140**	0.77(0.36-1.64)	0.4983
		Adj	**2.26(1.24-4.12)**	**0.0080**	0.85(0.38-1.91)	0.6910
	Almost always	Unadj	**3.34(1.14-9.85)**	**0.0285**	1.64(0.38-7.04)	0.5072
		Adj	2.30(0.63-8.39)	0.2076	1.42(0.31-6.44)	0.6521
During your pregnancy did your husband have sex with you? (ref=No)	Yes	Unadj	1.19(0.68-2.07)	0.5475	1.09(0.59-2.01)	0.7833
		Adj	1.17(0.66-2.08)	0.5973	1.26(0.66-2.41)	0.4933
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	1.79(0.90-3.58)	0.0982	2.00(0.96-4.16)	0.0634
		Adj	1.60(0.75-3.43)	0.2237	1.45(0.65-3.23)	0.3619
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	1.97(0.92-4.22)	0.0831	2.12(0.94-4.79)	0.0718
		Adj	1.55(0.67-3.55)	0.3041	1.42(0.59-3.41)	0.4380
Suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	1.19(0.53-2.64)	0.6744	**3.76(2.04-6.94)**	**<.0001**
		Adj	0.75(0.31-1.85)	0.5358	**2.92(1.50-5.69)**	**0.0016**
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	0.31(0.04-2.23)	0.2415	1.16(0.35-3.80)	0.8076
		Adj	0.19(0.03-1.47)	0.1118	0.73(0.21-2.54)	0.6236

Table 8f. Association between husband's sexual behavior and having itching sensation in urethra in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior of the husband			Had itching sensation in urethra			
			Once		More than once	
Variables	Categories	OR	OR (95%CI)	p value	OR (95%CI)	p value
Consumption of alcohol by husband before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	**1.85(1.34-2.56)**	**0.0002**	**1.50(1.07-2.10)**	**0.0197**
		Adj	**1.98(1.39-2.82)**	**0.0002**	**1.64(1.14-2.35)**	**0.0079**
	Almost always	Unadj	**2.72(1.24-5.99)**	**0.0128**	**2.34(1.04-5.29)**	**0.0406**
		Adj	**3.06(1.35-6.92)**	**0.0072**	2.18(0.91-5.22)	0.0789
During your pregnancy did your husband have sex with you? (ref=No)	Yes	Unadj	**1.55(1.13-2.13)**	**0.0070**	**2.17(1.54-3.06)**	**<.0001**
		Adj	**1.52(1.10-2.12)**	**0.0120**	**2.26(1.58-3.23)**	**<.0001**
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	**1.64(1.06-2.53)**	**0.0263**	**1.65(1.07-2.55)**	**0.0238**
		Adj	**1.66(1.04-2.66)**	**0.0337**	**1.61(1.01-2.57)**	**0.0467**
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	1.42(0.84-2.40)	0.1882	**1.91(1.18-3.09)**	**0.0083**
		Adj	1.37(0.78-2.40)	0.2721	**1.94(1.17-3.22)**	**0.0108**
Suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	1.42(0.91-2.23)	0.1225	**1.91(1.26-2.89)**	**0.0022**
		Adj	1.40(0.88-2.23)	0.1601	**1.90(1.23-2.94)**	**0.0037**
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	**1.86(1.04-3.33)**	**0.0376**	1.64(0.89-3.01)	0.1127
		Adj	1.82(0.98-3.37)	0.0565	1.65(0.87-3.11)	0.1239

Table 8g. Association between husband's sexual behavior and having pain in lower abdomen or lower back in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior of the husband			Had pain in lower abdomen or lower back			
			Once		More than once	
Variables	Categories	OR	OR (95%CI)	p value	OR (95%CI)	p value
Consumption of alcohol by husband before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	1.29(0.92-1.81)	0.1407	1.29(0.96-1.73)	0.0929
		Adj	**1.50(1.04-2.17)**	**0.0310**	**1.46(1.07-2.01)**	**0.0185**
	Almost always	Unadj	2.43(0.98-6.02)	0.0543	1.98(0.85-4.63)	0.1148
		Adj	2.26(0.87-5.85)	0.0940	2.24(0.94-5.34)	0.0688
During your pregnancy did your husband have sex with you? (ref=No)	Yes	Unadj	1.26(0.95-1.66)	0.1114	**1.86(1.44-2.39)**	**<.0001**
		Adj	1.31(0.98-1.76)	0.0722	**1.93(1.49-2.50)**	**<.0001**
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	1.11(0.71-1.74)	0.6475	1.06(0.72-1.58)	0.7557
		Adj	0.97(0.60-1.57)	0.8881	1.15(0.76-1.74)	0.5201
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	0.85(0.50-1.46)	0.5653	1.04(0.67-1.62)	0.8502
		Adj	0.74(0.42-1.30)	0.2885	1.08(0.68-1.72)	0.7549
Suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	1.26(0.82-1.93)	0.3030	1.00(0.68-1.49)	0.9858
		Adj	1.11(0.70-1.75)	0.6594	1.01(0.67-1.52)	0.9668
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	1.11(0.63-1.98)	0.7172	0.66(0.37-1.16)	0.1470
		Adj	0.96(0.52-1.77)	0.8962	0.67(0.37-1.21)	0.1818

Table 8h. Association between husband's sexual behavior and having inflammation/swelling in groin in last 6 months among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior of the husband			Had inflammation/swelling in groin			
			Once		More than once	
Variables	Categories	OR	OR (95%CI)	p value	OR (95%CI)	p value
Consumption of alcohol by husband before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	1.64(0.88-3.06)	0.1168	**2.12(1.14-3.96)**	**0.0176**
		Adj	1.66(0.82-3.38)	0.1592	**2.32(1.17-4.60)**	**0.0158**
	Almost always	Unadj	1.03(0.14-7.73)	0.9776	**7.45(2.91-19.07)**	**<.0001**
		Adj	1.02(0.13-8.06)	0.9867	**7.04(2.48-19.95)**	**0.0002**
During your pregnancy did your husband have sex with you? (ref=No)	Yes	Unadj	1.34(0.69-2.61)	0.3873	1.66(0.81-3.36)	0.1639
		Adj	1.18(0.60-2.35)	0.6322	**2.70(1.21-6.05)**	**0.0158**
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	1.11(0.43-2.82)	0.8338	**3.85(2.04-7.25)**	**<.0001**
		Adj	0.91(0.31-2.69)	0.8641	**2.83(1.40-5.76)**	**0.0040**
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	0.85(0.26-2.78)	0.7921	2.20(0.97-4.99)	0.0593
		Adj	0.87(0.26-2.97)	0.8233	1.14(0.45-2.90)	0.7893
Suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	1.03(0.41-2.64)	0.9439	**2.35(1.16-4.76)**	**0.0182**
		Adj	0.97(0.36-2.57)	0.9462	1.73(0.81-3.70)	0.1579
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	1.34(0.41-4.42)	0.6262	**2.91(1.20-7.04)**	**0.0180**
		Adj	1.30(0.37-4.54)	0.6800	1.72(0.66-4.49)	0.2686

Table 9.a. Distribution of the past history of having symptoms of sexually transmitted infections among husbands of the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
In the last 6 months, did your husband/male partner have any burning sensation/pain/irritation while urinating or inflammation in the groin?	Never	1415	84.73	83.00	86.46
	Once	160	9.58	8.17	10.99
	More than once	95	5.69	4.58	6.80

Table 9.b. Association of husband's sexual behavior and their history of having sexually transmitted infections in last six months as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Husband's sexual behavior	Categories	OR	During last 6 months' husband had some symptoms of sexually transmitted infection (ref=No)			
			Once		More than once	
			OR (95%CI)	p value	OR (95%CI)	p value
Husband consumes alcohol before having sex with you (ref=very rare or never consumes.)	Sometimes	Unadjusted	**1.84(1.25-2.69)**	**0.0018**	1.26(0.74-2.16)	0.3929
		Adjusted	**2.00(1.33-3.01)**	**0.0010**	1.11(0.63-1.97)	0.7137
	Almost always	Unadjusted	1.50(0.52-4.37)	0.4549	**3.62(1.45-9.05)**	**0.0060**
		Adjusted	1.40(0.47-4.21)	0.5480	2.55(0.90-7.23)	0.0779
Husband had sex with you during pregnancy (ref=No)	Oral sex or other	Unadjusted	1.44(0.64-3.24)	0.3743	0.40(0.05-3.08)	0.3814
		Adjusted	1.51(0.66-3.42)	0.3280	0.44(0.06-3.44)	0.4362
	Anal sex	Unadjusted	**2.16(1.05-4.47)**	**0.0377**	**3.51(1.45-8.51)**	**0.0054**
		Adjusted	**2.27(1.08-4.78)**	**0.0301**	**3.96(1.59-9.88)**	**0.0032**
	Vaginal sex	Unadjusted	1.29(0.87-1.90)	0.2039	**1.93(1.12-3.32)**	**0.0179**
		Adjusted	1.35(0.90-2.02)	0.1427	**2.06(1.16-3.65)**	**0.0136**
Husband use slang language/behave badly during sex with you	Yes (ref=No)	Unadjusted	**1.71(1.04-2.81)**	**0.0348**	1.33(0.67-2.63)	0.4128
		Adjusted	1.66(0.97-2.83)	0.0635	1.23(0.59-2.53)	0.5825
While having sex, physically assault/abuse by husband	Yes (ref=No)	Unadjusted	**1.93(1.12-3.35)**	**0.0189**	1.50(0.70-3.19)	0.2984
		Adjusted	**1.81(1.01-3.27)**	**0.0481**	1.20(0.52-2.79)	0.6736
You suspect that husband has/had sexual relations with other women	Yes (ref=No)	Unadjusted	1.63(0.98-2.70)	0.0584	**2.31(1.31-4.09)**	**0.0040**
		Adjusted	1.52(0.89-2.59)	0.1220	**2.46(1.32-4.59)**	**0.0046**
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadjusted	1.51(0.76-3.00)	0.2454	0.49(0.12-2.02)	0.3204
		Adjusted	1.35(0.65-2.81)	0.4286	0.45(0.10-1.94)	0.2806

Table 10.a. Distribution of the approach towards partner notification during having symptoms of sexually transmitted infections among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
If any woman has pain in the lower abdomen, burning sensation/pain/irritation while urinating or inflammation of the groin, do you think she should inform her husband/male partner about it?	No	346	20.72	18.77	22.66
	Yes	1324	79.28	77.34	81.23
In the last 6 months if you had pain in the lower abdomen, burning sensation/pain/irritation while urinating or inflammation of the groin, did you inform your husband/male partner about it?	No	442	37.36	34.60	40.12
	Yes	741	62.64	59.88	65.40

Table 10.b. Association of socio-demographic factors with the approach towards partner notification during having symptoms of sexually transmitted infections among antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Socio-demographic factors		OR	Woman having symptoms of sexually transmitted infection should inform her husband/male partner about it? (ref=no)		In last 6 months if you had symptoms of sexually transmitted infections informed husband/male partner about it? (ref=no)	
Continuous variables			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.01(0.98-1.04)	0.6934	1.01(0.98-1.04)	0.5335
		Adj	0.97(0.92-1.02)	0.1868	1.01(0.96-1.06)	0.7960
Age at marriage		Unadj	1.04(1.00-1.08)	0.0842	1.03(0.99-1.07)	0.1458
		Adj	0.99(0.94-1.04)	0.6967	1.00(0.96-1.06)	0.8735
Husband's age		Unadj	**1.02(1.00-1.05)**	**0.0381**	1.00(0.98-1.03)	0.8432
		Adj	**1.05(1.01-1.08)**	**0.0107**	1.00(0.96-1.03)	0.8235
Per capita family income		Unadj	**1.03(1.01-1.05)**	**0.0013**	1.01(1.00-1.02)	0.3967
		Adj	1.02(0.99-1.06)	0.0605	1.01(0.97-1.05)	0.7862
Categorical variables						
Religion (ref=Hindu)	Muslim	Unadj	0.85(0.67-1.08)	0.1756	0.94(0.74-1.19)	0.5777
		Adj	0.96(0.72-1.27)	0.7630	1.04(0.78-1.37)	0.8104
Educational level (ref=No education)	Primary	Unadj	1.05(0.60-1.85)	0.8534	0.99(0.52-1.89)	0.9772
		Adj	0.93(0.52-1.65)	0.7921	0.93(0.48-1.81)	0.8264
	High-school	Unadj	**2.00(1.26-3.16)**	**0.0032**	1.26(0.74-2.13)	0.3940
		Adj	**1.92(1.17-3.16)**	**0.0104**	1.23(0.70-2.17)	0.4680
	Graduation and above	Unadj	**6.45(2.96-14.05)**	**<.0001**	**2.72(1.33-5.53)**	**0.0060**
		Adj	**5.87(2.54-13.56)**	**<.0001**	**2.52(1.16-5.48)**	**0.0194**
Husband's educational level (ref=No education)	Primary	Unadj	0.89(0.58-1.37)	0.6023	1.11(0.71-1.72)	0.6441
		Adj	0.76(0.48-1.19)	0.2300	0.97(0.61-1.55)	0.8947
	High-school	Unadj	1.37(0.94-2.01)	0.0990	1.12(0.77-1.64)	0.5580
		Adj	0.98(0.65-1.49)	0.9404	0.95(0.62-1.44)	0.8092
	Graduation and above	Unadj	**2.30(1.29-4.11)**	**0.0051**	**2.23(1.27-3.91)**	**0.0053**
		Adj	1.23(0.64-2.37)	0.5298	1.69(0.88-3.22)	0.1130
Currently working?	Yes (ref=No)	Unadj	1.40(0.72-2.69)	0.3199	1.05(0.61-1.82)	0.8529
		Adj	1.15(0.58-2.30)	0.6877	0.84(0.47-1.50)	0.5510
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	**1.56(1.08-2.25)**	**0.0184**	**1.66(1.13-2.43)**	**0.0099**
		Adj	1.34(0.91-1.96)	0.1389	**1.56(1.05-2.32)**	**0.0279**
	Business	Unadj	**1.77(1.17-2.67)**	**0.0068**	**1.68(1.10-2.57)**	**0.0156**
		Adj	1.20(0.78-1.87)	0.4093	1.49(0.95-2.34)	0.0799
	Service	Unadj	**1.73(1.06-2.82)**	**0.0286**	**1.73(1.06-2.82)**	**0.0278**
		Adj	1.01(0.59-1.71)	0.9842	1.27(0.75-2.17)	0.3795
	Self-employed /Professional	Unadj	1.23(0.72-2.11)	0.4536	1.15(0.66-2.01)	0.6295
		Adj	0.98(0.56-1.73)	0.9426	1.13(0.63-2.03)	0.6757
Due to work, husband stays away from you/family at a stretch for ≥6 months?	Sometimes	Unadj	1.48(0.64-3.45)	0.3604	1.65(0.72-3.80)	0.2361
		Adj	1.79(0.74-4.33)	0.1937	1.66(0.70-3.92)	0.2513
	Few times	Unadj	**3.68(1.11-12.24)**	**0.0338**	2.57(0.95-6.98)	0.0644
		Adj	**3.97(1.16-13.61)**	**0.0281**	2.14(0.76-5.98)	0.1479
	Never (ref=Most of the time)	Unadj	1.28(0.68-2.44)	0.4461	1.15(0.61-2.16)	0.6718
		Adj	1.40(0.72-2.73)	0.3239	1.08(0.56-2.08)	0.8282
Residential area	Rural (ref=Urban)	Unadj	0.93(0.73-1.19)	0.5627	0.79(0.62-1.01)	0.0589
		Adj	0.93(0.70-1.24)	0.6417	0.79(0.60-1.05)	0.1030

Table 10.c. Association of knowledge regarding sexually transmitted infections including HIV with the approach towards partner notification during having symptoms of sexually transmitted infections among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Knowledge among respondents regarding sexually transmitted infections including HIV	Categories	OR	If any woman has pain in the lower abdomen, burning sensation/pain/irritation while urinating or inflammation of the groin, do you think she should inform her husband/male partner about it (ref=no)		In the last 6 months if you had pain in the lower abdomen, burning sensation/pain/irritation while urinating or inflammation of the groin, did you inform your husband/male partner about it (ref=no)	
			OR (95%CI)	p value	OR (95%CI)	p value
Knowledge regarding symptoms of sexually transmitted infections including HIV (ref=Poor)	Average	Unadj	**1.77(1.32-2.37)**	**0.0001**	**1.68(1.16-2.43)**	**0.0066**
		Adj	**1.76(1.30-2.39)**	**0.0003**	**1.68(1.14-2.46)**	**0.0081**
	Good	Unadj	**4.22(2.97-5.97)**	**<.0001**	**3.41(2.31-5.04)**	**<.0001**
		Adj	**3.87(2.70-5.55)**	**<.0001**	**3.18(2.13-4.75)**	**<.0001**
Knowledge regarding transmission of sexually transmitted infections including HIV (ref=Poor)	Average	Unadj	**2.41(1.71-3.39)**	**<.0001**	**1.74(1.25-2.42)**	**0.0012**
		Adj	**2.32(1.63-3.30)**	**<.0001**	**1.72(1.22-2.42)**	**0.0021**
	Good	Unadj	**1.93(1.48-2.51)**	**<.0001**	**1.88(1.42-2.50)**	**<.0001**
		Adj	**1.86(1.41-2.45)**	**<.0001**	**1.96(1.46-2.63)**	**<.0001**
Knowledge regarding complications of sexually transmitted infections including HIV (ref=Poor)	Average	Unadj	**1.53(1.11-2.12)**	**0.0095**	1.08(0.79-1.49)	0.6177
		Adj	1.36(0.97-1.90)	0.0743	1.04(0.75-1.44)	0.8361
	Good	Unadj	**1.39(1.06-1.81)**	**0.0165**	**1.39(1.06-1.81)**	**0.0160**
		Adj	**1.38(1.05-1.83)**	**0.0222**	**1.39(1.05-1.83)**	**0.0208**
Overall knowledge regarding sexually transmitted infections including HIV (ref=Poor)	Average	Unadj	**2.33(1.77-3.07)**	**<.0001**	**1.79(1.32-2.42)**	**0.0002**
		Adj	**2.23(1.68-2.96)**	**<.0001**	**1.75(1.28-2.39)**	**0.0004**
	Good	Unadj	**3.25(2.36-4.47)**	**<.0001**	**2.84(2.04-3.95)**	**<.0001**
		Adj	**3.06(2.19-4.27)**	**<.0001**	**2.73(1.94-3.84)**	**<.0001**

Table 10.d. Association of husband's sexual behavior and own perception of HIV and other sexually transmitted infection risk with the approach towards partner notification during having symptoms of sexually transmitted infections among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Husband's sexual behavior and own perception of HIV and other sexually transmitted infection risk		OR	Woman having symptoms of sexually transmitted infection should inform her husband/male partner about it? (ref=no)		In last 6 months if had symptoms of sexually transmitted infections informed husband/male partner about it? (ref=no)	
			OR (95%CI)	p value	OR (95%CI)	p value
Husband consumes alcohol before having sex with you (ref=very rare or never consumes.)	Sometimes	UnAdj	1.20(0.86-1.66)	0.2822	1.03(0.76-1.40)	0.8296
		Adj	1.29(0.91-1.83)	0.1576	1.00(0.72-1.38)	0.9780
	Almost always	UnAdj	0.55(0.27-1.11)	0.0968	0.63(0.31-1.30)	0.2101
		Adj	0.74(0.35-1.55)	0.4217	0.63(0.30-1.34)	0.2286
Husband had sex with you during pregnancy (ref=No)	Oral sex or other	UnAdj	0.72(0.42-1.26)	0.2525	1.80(0.98-3.34)	0.0598
		Adj	0.70(0.39-1.25)	0.2303	1.82(0.96-3.44)	0.0647
	Anal sex	UnAdj	1.06(0.59-1.89)	0.8478	1.57(0.87-2.86)	0.1369
		Adj	0.94(0.52-1.72)	0.8450	1.47(0.80-2.70)	0.2198
	Vaginal sex	UnAdj	**1.36(1.04-1.76)**	**0.0234**	**1.42(1.08-1.87)**	**0.0120**
		Adj	1.24(0.94-1.63)	0.1318	**1.36(1.02-1.80)**	**0.0363**
Husband use slang language/behave badly during sex with you	Yes (ref=No)	UnAdj	**0.43(0.30-0.62)**	**<.0001**	0.69(0.47-1.03)	0.0723
		Adj	**0.59(0.40-0.88)**	**0.0090**	0.80(0.52-1.23)	0.3143
While having sex, physically assault/abuse by husband	Yes (ref=No)	UnAdj	**0.49(0.32-0.74)**	**0.0008**	**0.61(0.38-0.97)**	**0.0365**
		Adj	0.66(0.42-1.03)	0.0696	0.71(0.43-1.16)	0.1648
You suspect that husband has/had sexual relations with other women	Yes (ref=No)	UnAdj	0.75(0.51-1.11)	0.1448	0.93(0.62-1.40)	0.7291
		Adj	0.93(0.61-1.40)	0.7126	1.00(0.65-1.52)	0.9891
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	UnAdj	0.67(0.39-1.13)	0.1328	0.76(0.42-1.36)	0.3517
		Adj	0.93(0.53-1.63)	0.7934	0.86(0.47-1.57)	0.6137
Do you think you might have HIV/AIDS? (ref=no)	yes	UnAdj	1.12(0.82-1.53)	0.4925	1.14(0.85-1.54)	0.3823
		Adj	1.19(0.86-1.65)	0.2824	1.16(0.86-1.58)	0.3346
Do you think you might have any sexually transmitted disease other than HIV/AIDS? (ref=no)	yes	UnAdj	**1.65(1.27-2.14)**	**0.0002**	**1.42(1.11-1.81)**	**0.0054**
		Adj	**1.66(1.27-2.17)**	**0.0002**	**1.46(1.13-1.88)**	**0.0036**
Do you think your husband might have HIV/AIDS? (ref=no)	yes	UnAdj	1.25(0.90-1.75)	0.1842	**1.39(1.01-1.91)**	**0.0445**
		Adj	1.37(0.97-1.93)	0.0747	**1.41(1.02-1.96)**	**0.0387**
Do you think your husband might have any STI? (ref=no)	yes	UnAdj	**1.58(1.17-2.14)**	**0.0026**	**1.58(1.19-2.08)**	**0.0014**
		Adj	**1.63(1.20-2.22)**	**0.0019**	**1.64(1.23-2.18)**	**0.0008**
Overall risk (ref=low)	average	UnAdj	**1.61(1.17-2.22)**	**0.0035**	1.01(0.75-1.36)	0.9626
		Adj	**1.65(1.19-2.30)**	**0.0030**	1.05(0.77-1.42)	0.7777
	good	UnAdj	**1.58(1.18-2.11)**	**0.0024**	**1.48(1.11-1.96)**	**0.0076**
		Adj	**1.65(1.22-2.24)**	**0.0012**	**1.54(1.15-2.07)**	**0.0040**

Table 11.a. Distribution of the general and sexually transmitted infection related healthcare-seeking among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Continuous variables			Mean	95%CL	
				Lower	Upper
About how much time (minutes) does it take to reach hospital			81.63	79.02	84.24
Categorical variables	**Categories**	**N**	**%**	**95%CL**	
				Lower	**Upper**
How to do you usually travel to the hospital?	Public transport	1535	91.92	90.61	93.22
	Walk	65	3.89	2.96	4.82
	Personal/reserved transport	70	4.19	3.23	5.15
If you had or have any of the conditions we talked about so far, who have you gone to or are likely to go to for treatment?	Government hospital's doctor	1168	69.94	67.74	72.14
	Private hospital/NGO/qualified private practitioner	151	9.04	7.67	10.42
	Nonqualified practitioners /medicine from pharmacy or medicine shop	110	6.59	5.40	7.78
	Not like to see anybody	241	14.43	12.74	16.12

Table 11.b. Distribution of the antenatal healthcare-seeking among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
After registering for the baby card, how many times have you come to the hospital for a check-up?		1670	3.54	3.44	3.64
Where have you thought of delivering this child?	Planned for institutional delivery	1612	96.53	95.65	97.41
	Not planned for institutional delivery	58	3.47	2.59	4.35

Table 12a. Distribution of the perception of risk for acquisition of sexually transmitted infections and HIV among antenatal care attendees and their husbands in Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
Do you think you might have HIV/AIDS?	No	1364	81.68	79.82	83.53
	Yes	306	18.32	16.47	20.18
Do you think you might have any sexually transmitted disease other than HIV/AIDS?	No	1055	63.17	60.86	65.49
	Yes	615	36.83	34.51	39.14
Do you think your husband might have HIV/AIDS?	No	1394	83.47	81.69	85.26
	Yes	276	16.53	14.74	18.31
Do you think your husband might have any STI?	No	1262	75.57	73.51	77.63
	Yes	408	24.43	22.37	26.49
Perceived overall risk of acquisition of sexually transmitted infection including HIV	Low	882	52.81	50.42	55.21
	Moderate	350	20.96	19.00	22.91
	High	438	26.23	24.12	28.34

Table 13a. Distribution of health perception, husband's medical history and own medical history among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Domain	Questions	Response Category	N	%	95% CL	
					Lower	Upper
Health Perception	What is your general opinion about your own health?	Good	954	57.13	54.75	59.50
		Average	599	35.87	33.57	38.17
		Poor	117	7.01	5.78	8.23
Husband's medical history	Has your husband ever had Hepatitis- B?	No	1657	99.22	98.80	99.64
		Yes	13	0.78	0.36	1.20
	Has your husband ever had Syphilis?	No	1665	99.70	99.44	99.96
		Yes	5	0.30	0.04	0.56
	Has your husband undergone circumcision	No	1043	62.46	60.13	64.78
		Yes	627	37.54	35.22	39.87
Own Medical History	In the last 6 months, have you had any blood transfusions?	No	1652	98.92	98.43	99.42
		Yes	18	1.08	0.58	1.57
	Have you ever been vaccinated for Hepatitis- B?	No	1463	87.60	86.02	89.19
		Yes	207	12.40	10.81	13.98
	Have you ever had Hepatitis- B?	No	1632	97.72	97.01	98.44
		Yes	38	2.28	1.56	2.99
	Have you ever had Syphilis?	No	1662	99.52	99.19	99.85
		Yes	8	0.48	0.15	0.81

Table 13b. Association of sociodemographic factors and health perception with husband's medical history as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Socio-demographic factors and health perception of the respondent		OR	Husband ever suffered from Hepatitis-B (ref=no)		Husband ever suffered from Syphilis (ref=no)		Husband's had undergone circumcision (ref=no)	
Continuous variables			**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.05(0.92-1.20)	0.4992	1.08(0.88-1.33)	0.4698	**0.96(0.93-0.98)**	**0.0017**
		Adj	0.84(0.68-1.05)	0.1326	0.90(0.62-1.32)	0.5848	1.03(0.98-1.09)	0.2494
Age at marriage		Unadj	1.03(0.87-1.23)	0.7017	1.20(0.99-1.46)	0.0700	**0.89(0.86-0.92)**	**<.0001**
		Adj	0.93(0.72-1.18)	0.5352	1.37(0.93-2.01)	0.1123	0.95(0.90-1.01)	0.0767
Husband's age		Unadj	**1.09(1.01-1.19)**	**0.0331**	1.04(0.90-1.21)	0.5611	**0.95(0.93-0.97)**	**<.0001**
		Adj	**1.20(1.06-1.37)**	**0.0051**	1.02(0.82-1.27)	0.8684	0.99(0.96-1.02)	0.5537
Per capita family income		Unadj	1.00(0.99-1.01)	0.9623	1.00(1.00-1.01)	0.8378	**1.02(1.01-1.03)**	**<.0001**
		Adj	1.00(0.98-1.02)	0.8351	1.00(0.99-1.01)	0.9793	1.02(0.99-1.04)	0.1830
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**	**OR (95%CI)**	**p value**
Religion (ref=Hindu)	Muslim	Unadj	0.56(0.18-1.71)	0.3087	0.60(0.10-3.59)	0.5732	**14.60(11.17-19.10)**	**<.0001**
		Adj	0.54(0.13-2.26)	0.3984	0.62(0.08-4.59)	0.6421	**15.40(11.22-21.15)**	**<.0001**
Educational level (ref=No education)	Primary	Unadj	0.31(0.03-3.47)	0.3416	-	-	0.73(0.43-1.24)	0.2391
		Adj	0.28(0.02-3.71)	0.3351	-	-	**0.37(0.19-0.73)**	**0.0040**
	High-school	Unadj	0.24(0.05-1.17)	0.0765	-	-	0.74(0.48-1.13)	0.1634
		Adj	0.21(0.03-1.30)	0.0932	-	-	**0.36(0.20-0.64)**	**0.0005**
	Graduation and above	Unadj	0.97(0.16-5.92)	0.9741	-	-	**0.43(0.25-0.76)**	**0.0035**
		Adj	3.12(0.33-29.54)	0.3213	-	-	**0.39(0.18-0.83)**	**0.0152**
Husband's educational level (ref=No education)	Primary	Unadj	-	-	-	-	1.45(1.00-2.12)	0.0514
		Adj	-	-	-	-	1.54(0.98-2.43)	0.0602
	High-school	Unadj	-	-	0.17(0.02-1.19)	0.0737	**0.71(0.51-0.99)**	**0.0408**
		Adj	-	-	0.10(0.01-1.01)	0.0513	1.37(0.91-2.07)	0.1314
	Graduation and above	Unadj	-	-	0.54(0.05-6.03)	0.6175	**0.52(0.33-0.83)**	**0.0059**
		Adj	-	-	0.49(0.02-13.43)	0.6725	1.87(0.99-3.50)	0.0523
Currently working?	Yes (ref=No)	Unadj	1.95(0.25-15.19)	0.5246	-	-	1.07(0.66-1.76)	0.7796
		Adj	2.02(0.21-19.35)	0.5410	-	-	0.93(0.50-1.74)	0.8247
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	1.38(0.17-11.52)	0.7669	0.69(0.07-6.64)	0.7454	1.12(0.80-1.55)	0.5123
		Adj	1.94(0.20-18.51)	0.5667	0.58(0.05-6.63)	0.6612	1.04(0.70-1.56)	0.8433
	Business	Unadj	1.81(0.20-16.33)	0.5959	0.45(0.03-7.23)	0.5728	0.81(0.56-1.17)	0.2564
		Adj	1.26(0.10-15.31)	0.8543	0.27(0.01-6.53)	0.4239	1.12(0.71-1.78)	0.6214
	Service	Unadj	-	-	-	-	**0.37(0.23-0.59)**	**<.0001**
		Adj	-	-	-	-	1.06(0.59-1.93)	0.8388
	Self-employed /Professional	Unadj	1.63(0.10-26.28)	0.7316	-	-	0.85(0.52-1.38)	0.4998
		Adj	2.03(0.11-37.02)	0.6337	-	-	0.89(0.49-1.61)	0.6917
Due to work, husband stays away from you/family at a stretch for ≥6 months?	Sometimes	Unadj	0.63(0.04-10.35)	0.7483	-	-	1.25(0.61-2.56)	0.5512
		Adj	0.64(0.03-12.31)	0.7662	-	-	1.18(0.47-2.95)	0.7186
	Few times	Unadj	-	-	-	-	0.79(0.34-1.82)	0.5793
		Adj	-	-	-	-	0.65(0.23-1.85)	0.4225
	Never (ref=Most of the time)	Unadj	0.37(0.05-2.93)	0.3475	-	-	1.01(0.57-1.80)	0.9755
		Adj	0.30(0.03-2.79)	0.2889	-	-	0.84(0.40-1.77)	0.6456
Residential area	Rural (ref=Urban)	Unadj	1.11(0.36-3.41)	0.8543	1.04(0.17-6.24)	0.9653	**2.91(2.35-3.61)**	**<.0001**
		Adj	1.14(0.29-4.55)	0.8538	1.64(0.20-13.61)	0.6479	1.08(0.80-1.44)	0.6258
Perception about own general health (ref=good)	Average	Unadj	1.60(0.46-5.54)	0.4603	-	-	1.13(0.92-1.40)	0.2498
		Adj	1.00(0.25-3.94)	0.9988	-	-	1.11(0.86-1.44)	0.4326
	Poor	Unadj	**5.00(1.18-21.18)**	**0.0290**	5.51(0.91-33.34)	0.0630	1.23(0.83-1.82)	0.3037
		Adj	2.33(0.39-13.96)	0.3552	**8.81(1.06-73.44)**	**0.0443**	0.93(0.57-1.52)	0.7792

Table 13c. Association of husband's sexual behavior with husband's medical history as reported by the recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior of the husband	Categories	OR	Husband ever suffered from Hepatitis-B (ref=no)		Husband ever suffered from Syphilis (ref=no)	
			OR(95%CI)	p value	OR(95%CI)	p value
Consumption of alcohol by husband before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	1.54(0.41-5.71)	0.5215	1.53(0.16-14.79)	0.7120
		Adj	2.54(0.55-11.80)	0.2329	1.59(0.15-17.07)	0.7023
	Almost always	Unadj	4.11(0.51-33.32)	0.1854	**12.39(1.26-122.01)**	**0.0310**
		Adj	4.56(0.39-52.97)	0.2248	**14.93(1.26-177.54)**	**0.0324**
During your pregnancy did your husband have sex with you? (ref=No)	Oral sex or other	Unadj	-	-	6.84(0.42-110.63)	0.1757
		Adj	-	-	5.98(0.34-104.69)	0.2211
	Anal sex	Unadj	-	-	6.38(0.40-103.08)	0.1919
		Adj	-	-	6.66(0.37-119.24)	0.1979
	Vaginal sex.	Unadj	1.01(0.31-3.30)	0.9846	0.90(0.08-9.94)	0.9308
		Adj	0.91(0.24-3.45)	0.8917	0.69(0.06-8.26)	0.7665
Husband use slang language/behave badly during sex with you	Yes (ref=No)	Unadj	0.87(0.11-6.73)	0.8930	**7.04(1.17-42.49)**	**0.0333**
		Adj	1.07(0.11-10.20)	0.9524	**16.51(1.67-163.24)**	**0.0165**
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	1.22(0.16-9.47)	0.8495	-	-
		Adj	1.52(0.16-14.86)	0.7210	-	-
Suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	0.84(0.11-6.53)	0.8705	**6.83(1.13-41.22)**	**0.0361**
		Adj	0.70(0.08-6.56)	0.7571	**9.43(1.33-66.86)**	**0.0247**
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	-	-	5.61(0.62-50.87)	0.1251
		Adj	-	-	10.32(0.84-127.19)	0.0685

Table 13d. Association of sociodemographic factors with respondent's medical history among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Socio-demographic factors		OR	Ever suffered from Hepatitis-B (ref=no)		Ever suffered from Syphilis (ref=no)	
Continuous variables			**OR(95%CI)**	**p value**	**OR(95%CI)**	**p value**
Age of the participant in completed years		Unadj	**1.10(1.02-1.18)**	**0.0165**	**1.27(1.10-1.47)**	**0.0010**
		Adj	0.97(0.86-1.09)	0.6002	1.28(0.97-1.69)	0.0790
Age at marriage		Unadj	1.08(0.98-1.18)	0.1154	1.11(0.93-1.34)	0.2489
		Adj	1.05(0.93-1.17)	0.4415	1.01(0.82-1.26)	0.9089
Husband's age		Unadj	**1.11(1.06-1.17)**	**<.0001**	**1.15(1.05-1.27)**	**0.0031**
		Adj	**1.12(1.04-1.20)**	**0.0016**	1.07(0.90-1.26)	0.4651
Per capita family income		Unadj	1.00(0.98-1.02)	0.7132	1.00(0.99-1.01)	0.5073
		Adj	1.00(0.97-1.02)	0.4847	1.00(0.98-1.02)	0.8891
Categorical	**Categories**					
Religion (ref=Hindu)	Muslim	Unadj	0.82(0.66-1.03)	0.0905	0.82(0.66-1.03)	0.0905
		Adj	**0.39(0.17-0.89)**	**0.0256**	**7.62(1.15-50.50)**	**0.0352**
Educational level (ref=No education)	Primary	Unadj	1.27(0.23-7.06)	0.7878	0.62(0.09-4.51)	0.6407
		Adj	1.57(0.27-9.05)	0.6147	0.83(0.10-6.98)	0.8630
	High-school	Unadj	1.08(0.25-4.57)	0.9204	**0.10(0.02-0.62)**	**0.0130**
		Adj	1.28(0.29-5.69)	0.7487	0.20(0.03-1.44)	0.1110
	Graduation and above	Unadj	0.32(0.03-3.57)	0.3536	0.32(0.03-3.57)	0.3536
		Adj	0.34(0.03-4.14)	0.3951	0.87(0.05-15.86)	0.9240
Husband's educational level (ref=No education)	Primary	Unadj	1.42(0.27-7.37)	0.6799	0.56(0.08-4.02)	0.5646
		Adj	1.43(0.25-8.36)	0.6900	1.70(0.19-15.57)	0.6382
	High-school	Unadj	2.30(0.54-9.76)	0.2589	**0.08(0.01-0.92)**	**0.0426**
		Adj	2.36(0.51-10.97)	0.2726	0.39(0.03-5.51)	0.4863
	Graduation and above	Unadj	2.21(0.40-12.21)	0.3648	1.64(0.27-9.97)	0.5887
		Adj	3.41(0.54-21.51)	0.1915	**19.74(1.32-295.50)**	**0.0307**
Currently working?	Yes (ref=No)	Unadj	0.62(0.08-4.60)	0.6415	-	-
		Adj	0.74(0.09-6.01)	0.7796	-	-
Husband's occupation (ref=Unskilled worker)	Skilled Worker	Unadj	1.38(0.40-4.75)	0.6050	1.15(0.13-9.88)	0.9004
		Adj	1.46(0.41-5.20)	0.5610	1.31(0.13-13.04)	0.8200
	Business	Unadj	1.52(0.41-5.58)	0.5308	0.45(0.03-7.23)	0.5728
		Adj	1.28(0.33-4.99)	0.7263	0.47(0.02-11.15)	0.6433
	Service	Unadj	0.63(0.10-3.84)	0.6206	-	-
		Adj	0.47(0.07-3.01)	0.4231	-	-
	Self-employed /Professional	Unadj	2.21(0.48-10.05)	0.3065	1.63(0.10-26.28)	0.7316
		Adj	2.53(0.53-12.03)	0.2436	3.42(0.17-68.24)	0.4202
Husband stays away from family at a stretch for ≥6 months?	Sometimes	Unadj	-	-	-	-
		Adj	1.42(0.71-2.83)	0.3223	-	-
Residential area	Rural (ref=Urban)	Unadj	0.85(0.45-1.63)	0.6321	0.69(0.17-2.78)	0.6040
		Adj	1.30(0.61-2.78)	0.4909	0.41(0.08-2.15)	0.2893

Table 13e. Association of respondent's sexual behavior/experience with respondent's medical history among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior/experience of the respondent	Categories	OR	Ever suffered from Hepatitis-B (ref=no)		Ever suffered from Syphilis (ref=no)	
			OR(95%CI)	p value	OR(95%CI)	p value
Age in years at first sex (ref=<15)	15-18	Unadj	1.26(0.37-4.33)	0.7107	0.42(0.04-4.63)	0.4771
		Adj	1.05(0.30-3.74)	0.9381	0.64(0.05-8.05)	0.7297
	19-35	Unadj	1.68(0.48-5.82)	0.4160	1.56(0.18-13.43)	0.6862
		Adj	1.16(0.29-4.69)	0.8375	2.40(0.16-36.38)	0.5280
	>35	Unadj	4.02(0.39-41.08)	0.2404	-	-
		Adj	2.28(0.20-26.46)	0.5089	-	-
Had first sex before marriage? (ref=No)	Yes	Unadj	0.90(0.27-2.96)	0.8616	-	-
		Adj	0.97(0.29-3.30)	0.9673	-	-
Ever was forced to have sex (ref=No)	Yes, by husband	Unadj	1.33(0.65-2.72)	0.4398	0.58(0.14-2.32)	0.4400
		Adj	1.20(0.56-2.56)	0.6346	0.68(0.14-3.30)	0.6344
	Yes, by someone else	Unadj	2.12(0.46-9.83)	0.3370	-	-
		Adj	1.76(0.35-8.81)	0.4885	-	-
Ever had anal sex (ref=No)	Yes	Unadj	0.86(0.45-1.64)	0.6515	1.30(0.31-5.45)	0.7208
		Adj	0.94(0.47-1.87)	0.8589	0.91(0.19-4.40)	0.9066
Ever anyone had sex with you after consuming alcohol (ref=No)	Yes	Unadj	1.47(0.77-2.80)	0.2413	1.46(0.36-5.85)	0.5942
		Adj	1.43(0.71-2.87)	0.3118	1.35(0.29-6.36)	0.7020
Before planning for a baby, did your husband use condoms during having sex with you? (ref=No)	Yes	Unadj	**0.39(0.16-0.94)**	**0.0366**	2.14(0.53-8.57)	0.2845
		Adj	0.50(0.20-1.23)	0.1327	2.03(0.42-9.94)	0.3800
Have male sex partner other than husband (ref=No)	Yes	Unadj	1.71(0.51-5.67)	0.3824	-	-
		Adj	2.22(0.60-8.19)	0.2333	-	-
For sex with male partner other than husband were you ever offered money? (ref=No)	Yes	Unadj	1.39(0.12-16.00)	0.7911	-	-
		Adj	8.81(0.03-2539.00)	0.4514	-	-
For sex with male partner other than husband ever accepted any gifts/money (ref=No)	Yes	Unadj	1.55(0.13-17.76)	0.7268	-	-
		Adj	2.22(0.02-225.30)	0.7353	-	-
Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers (ref=No)	Yes	Unadj	1.80(0.16-20.73)	0.6354	-	-
		Adj	1.42(0.02-81.18)	0.8647	-	-

Table 13f. Association of husband's sexual behavior and relevant medical history with respondent's medical history among recruited antenatal care attendees who were self-interviewed (N=1670), Kolkata, West Bengal, India, 2016

Sexual behavior and relevant medical history of the husband	Categories	OR	Ever suffered from Hepatitis-B (ref=no)		Ever suffered from Syphilis (ref=no)	
			OR(95%CI)	p value	OR(95%CI)	p value
Consumption of alcohol by husband before having sex with you (ref=Never/Very rare)	Sometimes	Unadj	1.23(0.56-2.71)	0.6063	2.77(0.66-11.67)	0.1641
		Adj	1.28(0.55-2.97)	0.5668	3.70(0.59-23.34)	0.1632
	Almost always	Unadj	-	-	-	-
		Adj	-	-	-	-
During your pregnancy did your husband have sex with you? (ref=No)	Oral sex or other	Unadj	0.67(0.08-5.32)	0.7058	6.84(0.42-110.70)	0.1755
		Adj	0.80(0.10-6.57)	0.8363	5.67(0.26-121.90)	0.2676
	Anal sex	Unadj	0.63(0.08-4.96)	0.6571	6.38(0.39-103.10)	0.1918
		Adj	0.73(0.09-6.01)	0.7678	4.37(0.20-93.38)	0.3449
	Vaginal sex.	Unadj	1.17(0.56-2.45)	0.6710	2.25(0.26-19.35)	0.4587
		Adj	1.43(0.65-3.17)	0.3784	3.73(0.40-35.12)	0.2492
Husband use slang language/behave badly during sex with you (ref=No)	Yes	Unadj	1.23(0.43-3.53)	0.6940	**10.70(2.65-43.26)**	**0.0009**
		Adj	1.18(0.33-4.18)	0.8023	**10.66(1.50-75.71)**	**0.0179**
While having sex, physically assault/abuse by husband (ref=No)	Yes	Unadj	0.81(0.19-3.40)	0.7714	-	-
		Adj	1.06(0.23-4.93)	0.9370	-	-
Suspect that husband has/had sexual relations with other women (ref=No)	Yes	Unadj	0.56(0.13-2.34)	0.4239	3.41(0.68-17.05)	0.1350
		Adj	0.59(0.14-2.55)	0.4786	1.96(0.32-11.84)	0.4654
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	-	-	3.20(0.39-26.37)	0.2793
		Adj	-	-	1.05(0.10-11.56)	0.9660
Has your husband ever had Hepatitis-B (ref=no)	yes	Unadj	3.65(0.46-28.80)	0.2193	-	-
		Adj	3.16(0.35-28.87)	0.3083	-	-
Has your husband ever had Syphilis? (ref=no)	yes	Unadj	-	-	**184.30(25.95-1309.00)**	**<.0001**
		Adj	-	-	**568.30(30.78-10492.00)**	**<.0001**
Husband had undergone circumcision (ref=no)	yes	Unadj	0.59(0.28-1.22)	0.1527	2.79(0.66-11.70)	0.1615
		Adj	0.84(0.32-2.20)	0.7228	2.48(0.39-15.77)	0.3353

Table 14a. Distribution of currently experienced symptoms of sexually transmitted infections, Hepatitis B and HIV among antenatal care attendees and their husbands in Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
Abnormal vaginal discharge (color/odor/amount)	No	1029	61.99	59.65	64.33
	Yes	631	38.01	35.67	40.35
Color	No Discharge	1298	77.72	75.73	79.72
	White	361	21.62	19.64	23.59
	Others (green, yellow, no color, other)	11	0.66	0.27	1.05
Odor	No discharge	1615	96.71	95.85	97.56
	Absent	26	1.56	0.96	2.15
	Present	29	1.74	1.11	2.36
Amount	No discharge	1084	64.91	62.62	67.20
	Low/occasional	339	20.30	18.37	22.23
	Moderate	91	5.45	4.36	6.54
	Heavy	156	9.34	7.94	10.74
Burning sensation during urination	No	1473	88.57	87.04	90.11
	Yes	190	11.43	9.89	12.96
Genital ulcers or sores	No	1622	97.71	96.99	98.43
	Yes	38	2.29	1.57	3.01
Itching in genital area	No	1355	81.48	79.61	83.35
	Yes	308	18.52	16.65	20.39
Lower abdominal pain	No	1274	76.70	74.67	78.74
	Yes	387	23.30	21.26	25.33
Swelling in groin	No	1601	96.33	95.42	97.23
	Yes	61	3.67	2.77	4.58
Yellow-colored urine/skin/eyes	No	1503	90.38	88.96	91.80
	Yes	160	9.62	8.20	11.04
Fever/loss of appetite/nausea	No	1493	89.78	88.32	91.24
	Yes	170	10.22	8.77	11.68
Pain during sexual intercourse	No	1450	87.56	85.97	89.15
	Yes	206	12.44	10.85	14.03

Table 15a. Distribution of Hepatitis B among self-interviewed antenatal care attendees in Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
Hepatitis B	Negative	1563	97.26	96.46	98.06
	Positive	44	2.74	1.94	3.54

Table 15b. Socio-demographic distribution of self-interviewed (N=1607) antenatal care attendees across Hepatitis B status in Kolkata, West Bengal, India, 2016

Continuous variables		Hepatitis B Positive (N=44)				Hepatitis B Negative (N=15630			
		Mean		95%CL			Mean	95%CL	
				Lower	Upper			Lower	Upper
What is your present age?		23.14		21.85	24.42		22.32	22.13	22.51
Per head family income (INR)		2696.48		1734.53	3658.44		2614.81	2478.43	2751.18
At what age, did you get married?		19.21		18.02	20.40		18.50	18.35	18.64
What is your husband's age in completed years		30.32		28.42	32.21		28.32	28.06	28.59
Categorical	**Categories**	**N**	**%**	**95%CL**		**N**	**%**	**95%CL**	
				Lower	**Upper**			**Lower**	**Upper**
Till what level have you studied?	No education	3	6.82	0.00	14.57	80	5.12	4.02	6.21
	Primary	7	15.91	4.66	27.16	126	8.06	6.71	9.41
	High-school	31	70.45	56.42	84.49	1226	78.44	76.4	80.48
	Graduation and above	3	6.82	0.00	14.57	131	8.38	7.01	9.76
What is your religion?	Hindu	27	61.36	46.39	76.34	733	46.96	44.48	49.44
	Muslim	17	38.64	23.66	53.61	828	53.04	50.56	55.52
What is your occupation?	Currently not working	44	100	100	100	1496	95.71	94.71	96.72
	Currently working	-	-	-	-	67	4.29	3.28	5.29
What is your husband's occupation?	Unskilled Worker	4	9.3	0.26	18.35	168	10.79	9.25	12.33
	Skilled Worker	23	53.49	37.96	69.02	732	47.01	44.53	49.50
	Business	8	18.6	6.49	30.72	374	24.02	21.90	26.14
	Service	4	9.30	0.26	18.35	178	11.43	9.85	13.01
	Self-employed /Professional	4	9.30	0.26	18.35	105	6.74	5.5	7.99
	No education	3	6.82	0.00	14.57	163	10.43	8.91	11.95
	Primary	10	22.73	9.84	35.62	283	18.11	16.2	20.02
	High-school	27	61.36	46.39	76.34	967	61.87	59.46	64.28
	Graduation and above	4	9.09	0.25	17.93	150	9.60	8.14	11.06
Due to your husband's work, does he need to stay away from you/family at a stretch for 6 months or more?	most of the time	1	2.27	0.00	6.86	49	3.13	2.27	4.00
	sometimes	2	4.55	0.00	10.95	76	4.86	3.79	5.93
	Few times	-	-	-	-	42	2.69	1.88	3.49
	Never	41	93.18	85.43	100	1396	89.32	87.78	90.85
Where do you live?	Urban	16	36.36	21.57	51.16	637	40.75	38.32	43.19
	Rural	28	63.64	48.84	78.43	926	59.25	56.81	61.68

Table 15c.i. Distribution of obstetric history of self-interviewed (N=1607) antenatal care attendees across Hepatitis B status in Kolkata, West Bengal, India, 2016)

Categorical variables	Categories	Hepatitis B Positive				Hepatitis B Negative			
				95%CL				95%CL	
		N	%	Lower	Upper	N	%	Lower	Upper
In the last 6 months, have you had any blood transfusions?	No	43	97.73	93.14	100.00	1546	98.91	98.40	99.43
	Yes	1	2.27	0.00	6.86	17	1.09	0.57	1.60
Have you ever been vaccinated for Hepatitis- B?	No	40	90.91	82.07	99.75	1368	87.52	85.88	89.16
	Yes	4	9.09	0.25	17.93	195	12.48	10.84	14.12
In the last 6 months, how many times have you taken an injection from a nurse/compounder/any health worker?	Never	1	2.27	0.00	6.86	55	3.52	2.60	4.43
	1 to 2 times	38	86.36	75.81	96.92	1351	86.44	84.74	88.14
	More than two times	5	11.36	1.60	21.12	157	10.04	8.55	11.54

Table 15c.ii. Distribution of own medical events of self-interviewed (N=1607) antenatal care attendees across Hepatitis B status in Kolkata, West Bengal, India, 2016

Continuous variables	Hepatitis B Positive			Hepatitis B Negative		
	Mean	95% CL		Mean	95% CL	
		Lower	Upper		Lower	Upper
Till now how many babies have you given birth to?	0.48	0.26	0.7	0.48	0.44	0.51
How many years ago was your last child born?	2.00	1.07	2.93	2.17	2.02	2.33
How many male children do you have?	0.18	0.06	0.30	0.20	0.18	0.22

Categorical variables	Categories	Hepatitis B Positive				Hepatitis B Negative			
		N	%	95%CL		N	%	95%CL	
				Lower	Upper			Lower	Upper
Including this time, how many times have you become a mother?	1st time	25	56.82	41.58	72.05	785	50.22	47.74	52.71
	2nd time	12	27.27	13.58	40.97	461	29.49	27.23	31.76
	3rd time	4	9.09	0.25	17.93	223	14.27	12.53	16.00
	4 or more	3	6.82	0.00	14.57	94	6.01	4.83	7.19
In the past, have you ever had an abortion or miscarriage?	No	36	81.82	69.96	93.68	1218	77.93	75.87	79.99
	Yes	8	18.18	6.32	30.04	345	22.07	20.01	24.13
Were any of your babies born prior to their due date?	No	42	95.45	89.05	100	1374	87.91	86.29	89.53
	Yes	2	4.55	0.00	10.95	189	12.09	10.47	13.71
Have you ever given birth to a stillborn child?	No	42	95.45	89.05	100	1525	97.57	96.8	98.33
	Yes	2	4.55	0.00	10.95	38	2.43	1.67	3.20

Table 15d. Association of socio-demographics with Hepatitis B sero-positivity among antenatal care attendees in Kolkata, West Bengal, India, 2016

Socio-demographic factors		OR	Hepatitis B sero-positivity	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	1.05(0.98-1.13)	0.1682
		Adj	0.97(0.86-1.09)	0.5986
Age at marriage		Unadj	1.07(0.98-1.17)	0.1348
		Adj	1.08(0.96-1.21)	0.1863
Husband's age		Unadj	**1.06(1.01-1.11)**	**0.0167**
		Adj	1.06(0.99-1.14)	0.1000
Per capita family income		Unadj	1.01(1.00-1.02)	0.8335
		Adj	1.01(0.99-1.02)	0.3399
Categorical	**Categories**			
Religion? (ref=Hindu)	Muslim	Unadj	0.56(0.30-1.04)	0.0651
		Adj	**0.47(0.23-0.97)**	**0.0416**
Educational level (ref=No education)	Primary	Unadj	1.48(0.37-5.88)	0.5798
		Adj	1.49(0.36-6.19)	0.5803
	High-school	Unadj	0.68(0.20-2.27)	0.5316
		Adj	0.59(0.17-2.12)	0.4192
	≥Graduation	Unadj	0.61(0.12-3.11)	0.5556
		Adj	0.52(0.09-2.99)	0.4659
Husband's educational level (ref=No education)	Primary	Unadj	1.93(0.52-7.09)	0.3251
		Adj	2.39(0.60-9.54)	0.2174
	High-school	Unadj	1.52(0.46-5.06)	0.4966
		Adj	1.81(0.50-6.56)	0.3685
	Graduation and above	Unadj	1.45(0.32-6.58)	0.6315
		Adj	2.03(0.38-11.00)	0.4104
Currently working?	Yes (ref=No)	Unadj	-	-
		Adj	-	-
Husband's occupation (ref=Unskilled worker)	Skilled worker	Unadj	1.31(0.45-3.85)	0.6200
		Adj	1.56(0.52-4.72)	0.4288
	Business	Unadj	0.89(0.27-3.01)	0.8559
		Adj	0.91(0.26-3.28)	0.8905
	Service	Unadj	0.93(0.23-3.79)	0.9231
		Adj	0.88(0.20-3.90)	0.8667
	Self-employed /Professional	Unadj	1.60(0.39-6.54)	0.5127
		Adj	2.05(0.48-8.70)	0.3319
How often husband needs to stay away from you/family at a stretch for 6 months or more? (ref=most of the time)	Sometimes	Unadj	1.29(0.11-14.61)	0.8373
		Adj	1.47(0.12-17.45)	0.7593
	Few times	Unadj	-	-
		Adj	-	-
	Never	Unadj	1.43(0.19-10.64)	0.7244
		Adj	1.64(0.21-12.73)	0.6353
Residential area (ref=Urban)	Rural	Unadj	1.22(0.65-2.27)	0.5385
		Adj	1.85(0.90-3.78)	0.0937

Table 15e. Association of obstetric history and health perception with Hepatitis B sero-positivity among antenatal care attendees in Kolkata, West Bengal, India, 2016

Obstetric history and health perception		OR	Hepatitis B sero-positivity	
Continuous			**OR (95%CI)**	**p value**
Till now how many babies have you given birth to?		Unadj	1.00(0.64-1.57)	1.0000
		Adj	1.00(0.49-2.06)	0.9956
How many years ago was your last child born?		Unadj	0.98(0.89-1.09)	0.7291
		Adj	0.88(0.75-1.03)	0.1185
How many male children do you have?		Unadj	0.91(0.44-1.86)	0.7933
		Adj	0.83(0.36-1.92)	0.6581
Categorical	**Categories**			
Including this time, how many times have you become a mother? (ref=1st time)	2nd time	Unadj	0.82(0.41-1.65)	0.5808
		Adj	0.68(0.28-1.65)	0.3922
	3rd time	Unadj	0.56(0.19-1.62)	0.2842
		Adj	0.39(0.10-1.51)	0.1734
	4 or more	Unadj	1.00(0.30-3.36)	0.9957
		Adj	0.67(0.14-3.27)	0.6217
In the past, have you ever had an abortion or miscarriage? (ref=no)	Yes	Unadj	0.78(0.36-1.70)	0.5383
		Adj	0.82(0.37-1.85)	0.6341
Were any of your babies born prior to their due date? (ref=no)	Yes	Unadj	0.34(0.08-1.43)	0.1427
		Adj	0.30(0.07-1.34)	0.1153
Have you ever given birth to a stillborn child? (ref=no)	Yes	Unadj	1.92(0.45-8.23)	0.3788
		Adj	2.08(0.46-9.45)	0.3436
Perception about own general health (ref=Good)	Average	Unadj	**0.38(0.16-0.87)**	**0.0216**
		Adj	**0.38(0.16-0.88)**	**0.0248**
	Poor	Unadj	**2.28(1.02-5.11)**	**0.0457**
		Adj	2.08(0.86-5.01)	0.1050

Table 15f. Association of Respondent's sexual behavior and experience with Hepatitis B sero-positivity among antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent's sexual behavior and experience	Categories	OR	Hepatitis B sero-positivity	
			OR (95%CI)	p value
Age in years at first sex (ref=<15)	15-18	Unadj	1.65(0.49-5.55)	0.4166
		Adj	1.49(0.43-5.14)	0.5324
	19-35	Unadj	1.74(0.50-6.01)	0.3812
		Adj	1.11(0.28-4.38)	0.8803
	>35	Unadj	-	-
		Adj	-	-
Had first sex before marriage? (ref=No)	Yes	Unadj	0.50(0.12-2.10)	0.3453
		Adj	0.46(0.11-1.97)	0.2972
Ever was forced to have sex (ref=No)	Yes, by husband	Unadj	1.13(0.59-2.17)	0.7190
		Adj	1.00(0.50-2.01)	0.9939
	Yes, by someone else	Unadj	2.68(0.74-9.68)	0.1320
		Adj	2.19(0.57-8.43)	0.2566
Ever had anal sex (ref=No)	Yes	Unadj	1.71(0.90-3.25)	0.1019
		Adj	1.78(0.90-3.54)	0.0980
Ever anyone had sex with you after consuming alcohol (ref=No)	Yes	Unadj	1.01(0.55-1.85)	0.9819
		Adj	0.91(0.47-1.76)	0.7869
Before planning for a baby, did your husband use condoms during having sex with you? (ref=No)	Yes	Unadj	**0.33(0.14-0.79)**	**0.0126**
		Adj	**0.39(0.16-0.93)**	**0.0338**
Have male sex partner other than husband (ref=No)	Yes	Unadj	**3.34(1.37-8.15)**	**0.0082**
		Adj	**3.72(1.35-10.22)**	**0.0109**
For sex with male partner other than husband were you ever offered money? (ref=No)	Yes	Unadj	3.88(0.43-34.89)	0.2270
		Adj	-	-
For sex with male partner other than husband ever accepted any gifts/money (ref=No)	Yes	Unadj	1.64(0.28-9.54)	0.5813
		Adj	-	-
Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers (ref=No)	Yes	Unadj	0.92(0.17-4.87)	0.9208
		Adj	-	-
During last 6 months, received injection from a nurse/compounder/any health worker? (ref=Never)	1 to 2 times	Unadj	1.60(0.22-11.83)	0.6473
		Adj	1.59(0.21-12.32)	0.6563
	More than two times	Unadj	1.82(0.21-15.87)	0.5899
		Adj	1.63(0.18-15.00)	0.6642
How is your sexual experience with your husband? (ref=excellent)	Good	Unadj	1.51(0.78-2.91)	0.2206
		Adj	1.81(0.90-3.62)	0.0943
	Average	Unadj	0.87(0.35-2.19)	0.7695
		Adj	0.93(0.36-2.39)	0.8830
	Poor	Unadj	0.52(0.07-3.95)	0.5296
		Adj	0.53(0.07-4.18)	0.5495

Table 15g. Association of husband's sexual behavior with Hepatitis B sero-positivity among antenatal care attendees in Kolkata, West Bengal, India, 2016

Husband's sexual behavior	Categories	OR	Hepatitis B sero-positivity	
			OR (95%CI)	p value
Husband consumes alcohol before having sex with you (ref=very rare or never consumes.)	Sometimes	Unadj	0.77(0.32-1.86)	0.5656
		Adj	0.76(0.30-1.90)	0.5518
	Almost always	Unadj	3.27(0.96-11.18)	0.0587
		Adj	3.27(0.88-12.22)	0.0781
Husband had sex with you during pregnancy (ref=No)	Oral sex or other	Unadj	1.24(0.27-5.72)	0.7834
		Adj	1.41(0.30-6.74)	0.6647
	Anal sex	Unadj	0.59(0.08-4.66)	0.6187
		Adj	0.63(0.08-5.10)	0.6610
	Vaginal sex.	Unadj	1.21(0.60-2.45)	0.5867
		Adj	1.44(0.68-3.05)	0.3392
Husband use slang language/behave badly during sex with you	Yes	Unadj	1.68(0.70-4.05)	0.2475
		Adj	1.37(0.49-3.87)	0.5521
While having sex, physically assault/abuse by husband	Yes	Unadj	1.50(0.53-4.29)	0.4460
		Adj	1.57(0.50-4.94)	0.4392
You suspect that husband has/had sexual relations with other women	Yes	Unadj	0.74(0.23-2.41)	0.6132
		Adj	0.76(0.23-2.57)	0.6589
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	0.53(0.07-3.91)	0.5338
		Adj	0.50(0.07-3.90)	0.5100

Table 15h. Association of respondent's attitude towards partner notification and current symptoms with Hepatitis B sero-positivity among antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent's attitude towards partner notification for symptoms suggestive of sexually transmitted infections	Categories	OR	Hepatitis B sero-positivity	
			OR (95%CI)	p value
If any woman has symptoms of sexually transmitted infections, she should inform her husband/male partner about it (ref=no)	yes	Unadj	**0.37(0.20-0.68)**	**0.0014**
		Adj	**0.35(0.18-0.68)**	**0.0020**
Respondent's history of having current symptoms	**Categories**	**OR**	**Hepatitis B sero-positivity**	
			OR (95%CI)	**p value**
Yellow-colored urine/skin/eyes (ref=no)	yes	Unadj	**6.36(3.38-11.95)**	**<.0001**
		Adj	**10.00(4.80-20.84)**	**<.0001**
Fever/loss of appetite/nausea (ref=no)	yes	Unadj	**3.82(1.96-7.44)**	**<.0001**
		Adj	**4.51(2.16-9.40)**	**<.0001**

Table 16a. Distribution of HIV-1 among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Categorical variables	Categories	N	%	95%CL	
				Lower	Upper
HIV-1	Negative	1596	98.34	97.71	98.96
	Positive	27	1.66	1.04	2.29

Table 16b. Socio-demographic distribution of self-interviewed (N=1623) antenatal care attendees across HIV-1 status in Kolkata, West Bengal, India, 2016

Continuous variables		HIV Positive (N=27)				HIV Negative (N=1596)			
		Mean		95%CL		Mean		95%CL	
				Lower	Upper			Lower	Upper
What is your present age?		25.15		23.31	26.98	22.29		22.1	22.47
Per head family income (INR)		2387.84		1715.21	3060.48	2607.62		2471.98	2743.25
At what age, did you get married?		19.52		17.42	21.61	18.49		18.35	18.64
What is your husband's age in completed years		32.74		30.17	35.32	28.30		28.04	28.56
Categorical variables	**Categories**	**N**	**%**	**95%CL**		**N**	**%**	**95%CL**	
				Lower	**Upper**			**Lower**	**Upper**
Till what level have you studied?	No education	9	33.33	14.33	52.34	79	4.95	3.88	6.02
	Primary	3	11.11	0.00	23.78	133	8.33	6.98	9.69
	High-school	14	51.85	31.71	71.99	1253	78.51	76.49	80.53
	Graduation and above	1	3.7	0.00	11.32	131	8.21	6.86	9.56
What is your religion?	Hindu	20	74.07	56.41	91.74	745	46.74	44.29	49.19
	Muslim	7	25.93	8.26	43.59	849	53.26	50.81	55.71
What is your occupation?	Currently not working	25	92.59	82.04	100	1529	95.80	94.82	96.79
	Currently working	2	7.41	0.00	17.96	67	4.20	3.21	5.18
What is your husband's occupation?	Unskilled Worker	2	7.41	0.00	17.96	171	10.76	9.24	12.29
	Skilled Worker	16	59.26	39.45	79.07	749	47.14	44.68	49.59
	Business	5	18.52	2.86	34.18	381	23.98	21.88	26.08
	Service	4	14.81	0.49	29.14	179	11.26	9.71	12.82
	Self-employed /Professional	-	-	-	-	109	6.86	5.62	8.10
	No education	4	14.81	0.49	29.14	165	10.34	8.84	11.83
	Primary	8	29.63	11.22	48.04	294	18.42	16.52	20.32
	High-school	12	44.44	24.41	64.48	986	61.78	59.39	64.17
	Graduation and above	3	11.11	0.00	23.78	151	9.46	8.02	10.9
Due to your husband's work, does he need to stay away from you/family at a stretch for 6 months or more?	Most of the time	3	11.11	0.00	23.78	48	3.01	2.17	3.85
	sometimes	5	18.52	2.86	34.18	75	4.70	3.66	5.74
	Few times	1	3.70	0.00	11.32	42	2.63	1.85	3.42
	Never	18	66.67	47.66	85.67	1431	89.66	88.17	91.16
Where do you live?	Urban	20	74.07	56.41	91.74	644	40.35	37.94	42.76
	Rural	7	25.93	8.26	43.59	952	59.65	57.24	62.06

Table 16c. Socio-demographic distribution of obstetric history of self-interviewed (N=1623) antenatal care attendees across HIV status in Kolkata, West Bengal, India, 2016

Continuous variables		HIV Positive				HIV Negative			
			Mean	95% CL		N	Mean	95% CL	
				Lower	Upper			Lower	Upper
Till now how many babies have you given birth to?			0.74	0.42	1.06		0.47	0.44	0.51
How many years ago was your last child born?			3.46	1.89	5.03		2.16	2.00	2.31
How many male children do you have?			0.33	0.11	0.55		0.19	0.17	0.21
Categorical variables	**Categories**	**N**	**%**	**95%CL**		**N**	**%**	**95%CL**	
				Lower	**Upper**			**Lower**	**Upper**
Including this time, how many times have you become a mother?	1st time	10	37.04	17.57	56.5	807	50.56	48.11	53.02
	2nd time	9	33.33	14.33	52.34	471	29.51	27.27	31.75
	3rd time	6	22.22	5.46	38.98	223	13.97	12.27	15.68
	4 or more	2	7.41	0.00	17.96	95	5.95	4.79	7.11
In the past, have you ever had an abortion or miscarriage?	No	18	66.67	47.66	85.67	1248	78.20	76.17	80.22
	Yes	9	33.33	14.33	52.34	348	21.80	19.78	23.83
Were any of your babies born prior to their due date?	No	24	88.89	76.22	100	1406	88.10	86.5	89.69
	Yes	3	11.11	0.00	23.78	190	11.90	10.31	13.5
Have you ever given birth to a stillborn child?	No	27	100	100	100	1555	97.43	96.65	98.21
	Yes	-	-	-	-	41	2.57	1.79	3.35

Table 16d. Association of socio-demographic factors with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Socio-demographic factors		OR	HIV-1 sero-positivity	
Continuous			**OR (95%CI)**	**p value**
Age of the participant in completed years		Unadj	**1.17(1.08-1.27)**	**0.0002**
		Adj	1.04(0.90-1.20)	0.6271
Age at marriage		Unadj	1.00(1.00-1.00)	0.6752
		Adj	1.00(1.00-1.00)	0.5373
Husband's age		Unadj	1.10(0.99-1.22)	0.0776
		Adj	1.00(0.88-1.12)	0.9593
Per capita family income		Unadj	**1.12(1.06-1.19)**	**<.0001**
		Adj	1.08(0.99-1.18)	0.0837
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**
Religion? (ref=Hindu)	Muslim	Unadj	**0.31(0.13-0.73)**	**0.0076**
		Adj	0.56(0.20-1.54)	0.2614
Educational level (ref=No education)	Primary	Unadj	**0.20(0.05-0.75)**	**0.0175**
		Adj	**0.14(0.03-0.61)**	**0.0086**
	High-school	Unadj	**0.10(0.04-0.23)**	**<.0001**
		Adj	**0.11(0.04-0.31)**	**<.0001**
	≥Graduation	Unadj	**0.07(0.01-0.54)**	**0.0110**
		Adj	**0.05(0.01-0.49)**	**0.0105**
Husband's educational level (ref=No education)	Primary	Unadj	1.12(0.33-3.78)	0.8522
		Adj	2.82(0.70-11.45)	0.1467
	High-school	Unadj	0.50(0.16-1.58)	0.2376
		Adj	0.97(0.25-3.72)	0.9636
	Graduation and above	Unadj	0.82(0.18-3.72)	0.7966
		Adj	2.17(0.35-13.70)	0.4090
Currently working? (ref=No)	Yes	Unad	1.83(0.42-7.87)	0.4192
		Adj	2.43(0.49-12.12)	0.2805
Husband's occupation (ref=Unskilled worker)	Skilled worker	Unadj	1.83(0.42-8.02)	0.4248
		Adj	4.41(0.83-23.51)	0.0827
	Business	Unadj	1.12(0.22-5.84)	0.8912
		Adj	2.84(0.43-18.63)	0.2773
	Service	Unadj	1.91(0.35-10.57)	0.4581
		Adj	3.97(0.56-28.22)	0.1688
	Self-employed /Professional	Unadj	-	-
		Adj	-	-
How often husband needs to stay away from you/family at a stretch for 6 months or more? (ref=most of the time)	Sometimes	Unadj	1.07(0.24-4.67)	0.9317
		Adj	1.33(0.27-6.56)	0.7296
	Few times	Unadj	0.38(0.04-3.80)	0.4110
		Adj	0.48(0.04-5.45)	0.5572

	Never	Unadj	**0.20(0.06-0.71)**	**0.0123**
		Adj	**0.20(0.05-0.80)**	**0.0229**
Residential area (ref=Urban)	Rural	Unadj	**0.24(0.10-0.56)**	**0.0011**
		Adj	0.39(0.14-1.07)	0.0683

Table 16e. Association of socio-demographic factors with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Obstetric history and health perception		**OR**	**HIV-1 seropositivity**	
Continuous			**OR (95%CI)**	**p value**
Till now how many babies have you given birth to?		Unadj	**1.59(1.03-2.45)**	**0.0382**
		Adj	1.06(0.48-2.31)	0.8915
How many years ago was your last child born?		Unadj	**1.12(1.01-1.24)**	**0.0391**
		Adj	0.91(0.75-1.10)	0.3188
How many male children do you have?		Unadj	1.78(0.90-3.54)	0.0994
		Adj	1.19(0.51-2.76)	0.6923
Categorical	**Categories**	**OR**	**OR (95%CI)**	**p value**
Including this time, how many times have you become a mother? (ref=1st time)	2nd time	Unadj	1.54(0.62-3.82)	0.3497
		Adj	0.74(0.23-2.41	0.6151
	3rd time	Unadj	2.17(0.78-6.04)	0.1374
		Adj	0.64(0.16-2.63)	0.5342
	4 or more	Unadj	1.70(0.37-7.87)	0.4980
		Adj	0.37(0.05-2.78)	0.3327
In the past, have you ever had an abortion or miscarriage? (ref=no)	Yes	Unadj	1.79(0.80-4.03)	0.1571
		Adj	1.14(0.47-2.77)	0.7764
Were any of your babies born prior to their due date? (ref=no)	Yes	Unadj	0.93(0.28-3.10)	0.8995
		Adj	0.45(0.12-1.72)	0.2444
Have you ever given birth to a stillborn child? (ref=no)	Yes	Unadj	-	-
		Adj	-	-
Perception about own general health (ref=Good)	Average	Unadj	1.23(0.54-2.82)	0.6283
		Adj	1.14(0.47-2.76)	0.7782
	Poor	Unadj	2.53(0.81-7.90)	0.1097
		Adj	1.55(0.43-5.59)	0.4998

Table 16f. Association of own knowledge about sexually transmitted infections including HIV and attitude towards HIV patients with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent's knowledge about Sexually transmitted infections including HIV, their acquisition and management	Categories	OR	HIV-1 sero-positivity	
			OR (95%CI)	p value
Regarding symptoms (ref=Poor)	Average	Unadj	0.63(0.23-1.75)	0.3774
		Adj	0.87(0.28-2.68)	0.8111
	Good	Unadj	0.87(0.32-2.38)	0.7906
		Adj	1.06(0.34-3.30)	0.9249
Regarding transmission (ref=Poor)	Average	Unadj	0.85(0.24-3.02)	0.7974
		Adj	0.98(0.25-3.90)	0.9815
	Good	Unadj	1.73(0.68-4.42)	0.2518
		Adj	2.63(0.93-7.40)	0.0677
Regarding complication (ref=Poor)	Average	Unadj	0.69(0.22-2.17)	0.5203
		Adj	0.95(0.29-3.20)	0.9399
	Good	Unadj	1.20(0.53-2.74)	0.6665
		Adj	1.79(0.72-4.44)	0.2100
Overall knowledge (ref=Poor)	Average	Unadj	0.82(0.28-2.37)	0.7114
		Adj	1.15(0.36-3.72)	0.8102
	Good	Unadj	1.88(0.71-4.99)	0.2044
		Adj	3.02(0.99-9.25)	0.0530
Respondent's attitude towards HIV patients		**OR**	**OR (95%CI)**	**p value**
Overall attitude (ref=Poor)	Average	Unadj	1.29(0.45-3.70)	0.6364
		Adj	1.17(0.38-3.60)	0.7805
	Good	Unadj	2.43(0.96-6.12)	0.0610
		Adj	1.68(0.62-4.54)	0.3095

Table 16g. Association of own sexual behavior/experience with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent's sexual behavior/experience and other risk factors	Categories	OR	HIV-1 sero-positivity	
			OR (95%CI)	p value
Age in years at first sex (ref=<15)	15-18	Unadj	0.52(0.18-1.49)	0.2256
		Adj	0.67(0.21-2.21)	0.5140
	19-35	Unadj	0.55(0.18-1.66)	0.2877
		Adj	0.42(0.10-1.78)	0.2392
	>35	Unadj	-	-
		Adj	-	-
Had first sex before marriage? (ref=No)	Yes	Unadj	0.40(0.05-2.95)	0.3665
		Adj	0.33(0.04-2.73)	0.3062
Ever was forced to have sex (ref=No)	Yes, by husband	Unadj	0.58(0.26-1.29)	0.1799
		Adj	0.58(0.24-1.39)	0.2197
	Yes, by someone else	Unadj	3.01(0.82-11.04)	0.0965
		Adj	3.36(0.72-15.67)	0.1227
Ever had anal sex (ref=No)	Yes	Unadj	0.61(0.28-1.31)	0.2069
		Adj	0.63(0.28-1.44)	0.2725
Ever anyone had sex with you after consuming alcohol (ref=No)	Yes	Unadj	**3.52(1.53-8.09)**	**0.0030**
		Adj	**2.83(1.15-6.98)**	**0.0241**
Before planning for a baby, did your husband use condoms during having sex with you? (ref=No)	Yes	Unadj	0.74(0.31-1.76)	0.4983
		Adj	0.89(0.36-2.25)	0.8090
Have male sex partner other than husband (ref=No)	Yes	Unadj	1.58(0.37-6.78)	0.5397
		Adj	1.46(0.30-7.03)	0.6401
For sex with male partner other than husband were you ever offered money? (ref=No)	Yes	Unadj	0.67(0.04-11.18)	0.7829
		Adj	-	-
For sex with male partner other than husband ever accepted any gifts/money (ref=No)	Yes	Unadj	0.75(0.05-12.44)	0.8409
		Adj	-	-
Suspect that the male sex partner who paid money for sex has sexual relations with female sex workers	Yes(ref=No)	Unadj	0.88(0.05-14.55)	0.9277
		Adj	-	-
During last 6 months, received injection from a nurse/compounder/any health worker? (ref=Never)	1 to 2 times	Unadj	**0.11(0.04-0.31)**	**<.0001**
		Adj	**0.18(0.05-0.60)**	**0.0053**
	More than two times	Unadj	0.55(0.17-1.76)	0.3128
		Adj	1.08(0.28-4.21)	0.9116
How is your sexual experience with your husband? (ref=excellent)	Good	Unadj	0.59(0.21-1.63)	0.3068
		Adj	0.79(0.27-2.34)	0.6728
	Average	Unadj	0.79(0.26-2.40)	0.6763

		Adj	0.81(0.25-2.68)	0.7336
	Poor	Unadj	2.16(0.61-7.63)	0.2319
		Adj	1.49(0.36-6.14)	0.5845

Table 16h. Association of husband's sexual behavior with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Husband's sexual behavior	Categories	OR	HIV-1 sero-positivity	
			OR (95%CI)	p value
Husband consumes alcohol before having sex with you (ref=very rare or never consumes.)	Sometimes	Unadj	**2.92(1.31-6.50)**	**0.0087**
		Adj	2.24(0.91-5.48)	0.0788
	Almost always	Unadj	2.23(0.29-17.28)	0.4424
		Adj	0.95(0.09-9.88)	0.9636
Husband had sex with you during pregnancy (ref=No)	Oral sex or other	Unadj	0.55(0.07-4.31)	0.5699
		Adj	0.48(0.06-4.09)	0.5010
	Anal sex	Unadj	0.54(0.07-4.18)	0.5510
		Adj	0.58(0.07-4.96)	0.6164
	Vaginal sex.	Unadj	0.47(0.21-1.04)	0.0633
		Adj	0.65(0.28-1.53)	0.3253
Husband use slang language/behave badly during sex with you	Yes	Unadj	1.81(0.62-5.30)	0.2803
		Adj	1.51(0.43-5.32)	0.5188
While having sex, physically assault/abuse by husband	Yes	Unadj	1.16(0.27-4.96)	0.8417
		Adj	0.97(0.20-4.70)	0.9664
You suspect that husband has/had sexual relations with other women	Yes	Unadj	1.81(0.62-5.30)	0.2803
		Adj	1.39(0.40-4.79)	0.6032
Think that the other woman with whom husband has/had sexual relation is a sex worker (ref=No)	Yes	Unadj	-	-
		Adj	-	-

Table 16i. Association of own and husband's medical history and past history of symptoms suggestive of sexually transmitted infections with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent's and her husband's medical history	Categories	OR	HIV-1 seropositivity	
			OR (95%CI)	p value
In the last 6 months, have you had any blood transfusions? (ref=no)	Yes	Unadj	**7.90(1.72-36.20)**	**0.0078**
		Adj	**7.92(1.30-48.36)**	**0.0250**
Have you ever been vaccinated for Hepatitis- B? (ref=no)	Yes	Unadj	0.89(0.27-2.98)	0.8469
		Adj	1.11(0.30-4.06)	0.8782
Have you ever had Hepatitis- B? (ref=no)	Yes	Unadj	3.57(0.81-15.66)	0.0917
		Adj	2.71(0.51-14.37)	0.2424
Have you ever had Syphilis? (ref=no)	Yes	Unadj	**12.24(1.38-108.45)**	**0.0244**
		Adj	-	-
Husband ever had Hepatitis- B? (ref=no)	Yes	Unadj	5.54(0.69-44.52)	0.1072
		Adj	2.93(0.26-32.52)	0.3819
Husband undergone circumcision (ref=no)	Yes	Unadj	0.82(0.37-1.83)	0.6230
		Adj	1.49(0.54-4.09)	0.4371
Respondent's and her husband's past history of having symptoms suggestive of sexually transmitted infections	**Categories**	**OR**	**HIV-1 seropositivity**	
			OR (95%CI)	**p value**
In the last 6 months, did you ever have yellowish/dark colored urine for a sustained period? (ref=no)	Yes	Unadj	0.40(0.12-1.33)	0.1335
		Adj	0.42(0.12-1.48)	0.1776
In the last 6 months, were your eyes or skin yellowish for a prolonged duration? (ref=no)	Yes	Unadj	0.41(0.06-3.04)	0.3831
		Adj	0.37(0.05-2.98)	0.3521
In the last 6 months, did you feel feverish or have a low appetite for a prolonged duration? (ref=no)	Yes	Unadj	1.84(0.85-3.99)	0.1250
		Adj	2.08(0.88-4.91)	0.0933
In the last 6 months, did you feel nausea or have episodes of vomiting for a prolonged duration of time? (ref=no)	Yes	Unadj	**0.34(0.15-0.76)**	**0.0083**
		Adj	**0.41(0.18-0.97)**	**0.0430**
In the last 6 months, did you have any foul smelling discharge from your urethra? (ref=no)	Once	Unadj	0.99(0.36-2.71)	0.9893
		Adj	1.05(0.36-3.07)	0.9226
	More than once	Unadj	1.05(0.39-2.88)	0.9201
		Adj	1.09(0.37-3.22)	0.8700
In the last 6 months, did you ever have any burning sensation while urinating? (ref=no)	Once	Unadj	0.90(0.31-2.66)	0.8494
		Adj	0.81(0.25-2.61)	0.7213
	More than once	Unadj	0.60(0.18-2.04)	0.4164
		Adj	0.57(0.16-2.06)	0.3935
In the last 6 months, did you any ulcer in your private parts? (ref=no)	Once	Unadj	**4.47(1.49-13.45)**	**0.0077**
		Adj	3.35(0.95-11.77)	0.0594
	More than once	Unadj	**4.02(1.16-13.94)**	**0.0282**
		Adj	2.59(0.58-11.58)	0.2121
In the last 6 months, did you have any itching sensation in your urethra? (ref=no)	Once	Unadj	0.87(0.29-2.58)	0.8009
		Adj	0.79(0.24-2.55)	0.6888
	More than once	Unadj	0.88(0.30-2.62)	0.8225
		Adj	0.86(0.27-2.75)	0.8015
In the last 6 months, did you ever have pain in your lower abdomen or lower back? (ref=no)	Once	Unadj	0.92(0.38-2.25)	0.8586
		Adj	0.83(0.31-2.25)	0.7100
	More than once	Unadj	0.39(0.15-1.04)	0.0606
		Adj	0.46(0.16-1.30)	0.1409
In the last 6 months, did you have any inflammation/swelling in your groin? (ref=no)	Yes	Unadj	**3.58(1.05-12.27)**	**0.0423**
		Adj	3.62(0.92-14.28)	0.0658

In the last 6 months, did your husband have any burning sensation/pain/irritation while urinating or inflammation in the groin? (ref=never)	Once	Unadj	1.20(0.36-4.05)	0.7703
		Adj	1.22(0.33-4.44)	0.7675
	More than once	Unadj	1.40(0.32-6.04)	0.6531
		Adj	1.47(0.27-7.87)	0.6538

Table 16j. Association of attitude towards partner notification for symptoms suggestive of sexually transmitted infections and perception regarding risk of sexually transmitted infections including HIV with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent's attitude towards partner notification for symptoms suggestive of sexually transmitted infections	**Categories**	**OR**	**HIV-1 sero-positivity**	
			OR (95%CI)	**p value**
If any woman has pain in the lower abdomen, burning sensation/pain/irritation while urinating or inflammation of the groin, do you think she should inform her husband/male partner about it? (ref=no)	Yes	Unadj	1.51(0.52-4.40)	0.4495
		Adj	1.73(0.55-5.44)	0.3458
In the last 6 months if you had pain in the lower abdomen, burning sensation/pain/irritation while urinating or inflammation of the groin, did you inform your husband/male partner about it? (ref=no)	Yes	Unadj	1.31(0.45-3.79)	0.6195
		Adj	1.16(0.35-3.81)	0.8048
Respondent' perception regarding risk of sexually transmitted infections including HIV				
Do you think you might have HIV/AIDS? (ref=no)	Yes	Unadj	**11.71(5.08-27.03)**	**<.0001**
		Adj	**14.50(5.57-37.74)**	**<.0001**
Do you think you might have any sexually transmitted disease other than HIV/AIDS? (ref=no)	Yes	Unadj	1.38(0.64-2.96)	0.4147
		Adj	1.31(0.58-2.97)	0.5147
Do you think your husband might have HIV/AIDS? (ref=no)	Yes	Unadj	**6.76(3.13-14.62)**	**<.0001**
		Adj	**7.13(2.98-17.07)**	**<.0001**
Do you think your husband might have any STI? (ref=no)	Yes	Unadj	1.57(0.70-3.53)	0.2722
		Adj	1.56(0.65-3.79)	0.3213
Overall perceived risk (ref=Low)	Moderate	Unadj	2.59(0.64-10.41)	0.1806
		Adj	2.13(0.50-9.10)	0.3068
	High	Unadj	**10.08(3.41-29.81)**	**<.0001**
		Adj	**12.04(3.77-38.43)**	**<.0001**

Table 16k. Association of having current symptoms suggestive of sexually transmitted infections with HIV-1sero-positivity among self-interviewed (N=1623) antenatal care attendees in Kolkata, West Bengal, India, 2016

Respondent's history of having current symptoms suggestive of sexually transmitted infections	Categories	OR	HIV-1 sero-positivity	
			OR (95%CI)	p value
Abnormal vaginal discharge (color/odor/amount) (ref=no)	Yes	Unadj	0.38(0.14-1.01)	0.0516
		Adj	0.42(0.15-1.18)	0.1000
Color (ref=no Discharge)	White	Unadj	0.61(0.21-1.78)	0.3640
		Adj	0.71(0.23-2.18)	0.5442
Amount (ref=no Discharge)	Low to moderate	Unadj	-	-
		Adj	-	-
	Heavy	Unadj	0.57(0.20-1.67)	0.3086
		Adj	0.67(0.21-2.09)	0.4863
Burning sensation during urination (ref=no)	Yes	Unadj	-	-
		Adj	-	-
Genital ulcers or sores (ref=no)	Yes	Unadj	0.30(0.04-2.25)	0.2422
		Adj	0.28(0.04-2.19)	0.2234
Itching in genital area (ref=no)	Yes	Unadj	0.65(0.15-2.77)	0.5594
		Adj	0.59(0.12-2.91)	0.5166
Lower abdominal pain (ref=no)	Yes	Unadj	3.70(0.84-16.26)	0.0834
		Adj	2.66(0.45-15.79)	0.2814
Swelling in groin (ref=no)	Yes	Unadj	1.60(0.67-3.84)	0.2937
		Adj	1.47(0.57-3.79)	0.4285

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