

**REPRODUCTIVE TRACT INFECTIONS AMONG WOMEN  
ATTENDING GYNAECOLOGICAL OUTPATIENT DEPARTMENT  
TRIBHUVAN UNIVERSITY  
TEACHING HOSPITAL**

**A  
DISSERTATION  
SUBMITTED TO THE CENTRAL DEPARTMENT OF MICROBIOLOGY  
TRIBHUVAN UNIVERSITY**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF  
DEGREE OF MASTER OF SCIENCE IN MICROBIOLOGY  
(ENVIRONMENT AND PUBLIC HEALTH)**

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## ABSTRACT

Many women and men suffer from reproductive tract infections (RTIs), including sexually transmitted infections (STIs). Women often suffer silently with reproductive tract infections. RTI often cause discomfort and lost economic productivity. Studies of the prevalence of these infections in South Asia have been hindered by low participant rates, and little is known about rates among the married women.

A hospital based cross-sectional study of RTIs was conducted from July to November 2006 among the married women 15 to 49 years of age in Gynaecological Outpatient Department of Tribhuvan University Teaching Hospital Maharajgunj, Kathmandu. The women were questioned about the symptoms, received speculum and pelvic examinations and collected samples for laboratory test. Ethical approval was taken from the Institutional Review Board, Institute of Medicine, Maharajgunj, Kathmandu. Verbal and written consent was taken from each patient. A total of two hundred sixty nine samples (104 vaginal discharge, 104 endocervical discharge and 61 blood samples) from 104 patients were examined by microscopy, culture and serological procedure to identify the causative agents of RTIs. The mean age of the women were 35.5 years. Majority of women were illiterate; but 20.19 percent had more than five years of education. The Brahmin ethnic group (32.69%) was highest in study population. Majority of patients' husbands (31.73 %) were services holder. Seventy percent women were living with husband, 9.62 percent were separated, 1.96 percent was divorced, 0.96 percent was widow and 13.46 percent husbands were living away from home. The first mean age at menarche was 14.5 years. Majority had been pregnant twice or thrice and majority had having one or two living children, but 9.62 percent had never been pregnant. Sixty one percent patients reported normal menstruation, 28.85 percent had abnormal and 9.62 percent were menopause. Six percent women had sterility, 15.38 percent had still birth and 6.73 percent miscarriage. Overall 26.39 percent (71/269) samples were positive for different etiological agents of STIs/RTIs. Among STIs caused by various organisms *Candida albicans* (25%) showed highest prevalence. Bacterial vaginosis was diagnosed in 18 percent and 12 percent had *Trichomonas vaginalis*. Prevalence of *Neisseria gonorrhoeae* was found 6.76 percent. Women of 25-35 years of were more likely to associated with laboratory diagnosis of SITs than those with others age groups. Women with more than five years of education were less likely to have STIs than those with no education. The infection rate was found highest in laborers wives. Infection rate (39.42%) was highest in women living with husband. None of the cases were positive for Hepatitis B infection. Low socio-economic status and illiterate women had high prevalence of RTIs. Education and outreach are needed to reduce the stigma, embarrassment and lack of knowledge related to RTIs.

**Key words:** *Reproductive tract infection, Married women, Gynae Department, Teaching Hospital*

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## LIST OF ABBREVIATIONS

|                                   |  |
|-----------------------------------|--|
| <b>µl</b>                         | Micro litre  |
| <b>µm</b>                         | Micro meter  |
| <b>Ag</b>                         | Antigen  |
| <b>AIDS</b>                       | Acquired Immunodeficiency Syndrome                 |
| <b>BV</b>                         | Bacterial Vaginosis                                |
| <b>CA</b>                         | Chocolate Agar Media                               |
| <b>CDC</b>                        | Centers for Disease Control                        |
| <b>Co<sub>2</sub></b>             | Carbon dioxide                                     |
| <b>D/W</b>                        | Distilled Water                                    |
| <b>DNA</b>                        | Deoxyribose Nucleic Acid                           |
| <b>DV OPD</b>                     | Dermatology and Venerology Out Patients Department |
| <b>GC</b>                         | Gonococci  |
| <b>gm</b>                         | Gram   |
| <b>GPYC</b>                       | Gram-positive Yeast Cells                          |
| <b>GYNAE Dept.</b>                | Gynaecological Department                          |
| <b>H<sub>2</sub>O<sub>2</sub></b> | Hydrogen Peroxide                                  |
| <b>HBc Ag</b>                     | Hepatitis Core Antigen                             |
| <b>HB<sub>e</sub> Ag</b>          | Hepatitis e Antigen                                |
| <b>HBs Ag</b>                     | Hepatitis Surface Antigen                          |
| <b>HBV</b>                        | Hepatitis B Virus                                  |
| <b>HCV</b>                        | Hepatitis C Virus                                  |
| <b>HIV</b>                        | Human Immunodeficiency Virus                       |
| <b>HSV</b>                        | Herpes Simplex Virus                               |
| <b>IUD</b>                        | Intrauterine Device                                |
| <b>L</b>                          | Litre  |
| <b>ml</b>                         | Milli litre  |
| <b>NA</b>                         | Nutrient Agar                                      |
| <b>NaOH</b>                       | Sodium Hydroxide                                   |
| <b>nm</b>                         | Nano meter   |
| <b>OPD</b>                        | Out Patients Department                            |
| <b>Org</b>                        | Organization                                       |

|             |   |
|-------------|---|
| <b>PAP</b>  | Papspeanicolan                            |
| <b>PCR</b>  | Polymerase Chain Reaction                 |
| <b>PID</b>  | Pelvic Inflammatory Disease               |
| <b>RTI</b>  | Reproductive Tract Infection              |
| <b>SD</b>   | Standard Deviation                        |
| <b>SDA</b>  | Sabour dextrose Agar                      |
| <b>SEAR</b> | South East Asian Region                   |
| <b>Spp</b>  | Species                                   |
| <b>SPSS</b> | Software Programme for Statistical System |
| <b>STD</b>  | Sexually Transmitted Disease              |
| <b>STI</b>  | Sexually Transmitted Infection            |
| <b>T M</b>  | Thayer Martin                             |
| <b>TUTH</b> | Tribhuvan University Teaching Hospital    |
| <b>TV</b>   | <i>Trichomonas vaginalis</i>              |
| <b>USA</b>  | United State of America                   |
| <b>VDC</b>  | Village Development Committee             |
| <b>WHO</b>  | World Health Organization                 |

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