

Prevalence of Reproductive Tract Infections/ Sexually Transmitted Infections among Women in a Tertiary Care Hospital- An Observational Study

RubyBhatia¹, Parmjit Kaur², Santosh Kumari³, Aman Dev⁴

¹MBBS, MD OBG, FICOG, Associate Professor, Deptt of Obstetrics and Gynaecology, Govt Medical College and Rajindera Hospital, Patiala, Punjab.

²MBBS, MD OBG, FICOG, Professor, Deptt of Obstetrics and Gynaecology, Govt Medical College and Rajindera Hospital, Patiala, Punjab.

³MBBS, Postgraduate student, Deptt of Obstetrics and Gynaecology, Govt Medical College and Rajindera Hospital, Patiala, Punjab.

⁴MBBS, MD PSM, Medical College and Rajindera Hospital, Patiala, MO Civil Surgeon Office Patiala.

Abstract

Background: Reproductive tract infections (RTIs) /sexually transmitted infections (STIs) are an important public health problem: 6% of adult population in India has one or more RTI/STI. Approximately 30-35 million new episodes of RTI/STI occur every year in country. RTI/STI are an important cause of infertility. Roughly 21% pregnancies result in still birth and 9% in neonatal death due to untreated syphilis.

Aims and Objectives: To study the prevalence of RTI/STI in women, to find out commonest RTI/STI and its correlation with HIV/VDRL and Pap Smear abnormality if any.

Material & Methods: This is a cross-sectional observational study undertaken for one year in 2294 consecutive women with RTI/STI in the age group of 15-49 years, attending the Gynaecology outpatient Department of a tertiary-care hospital in North India

Result: The prevalence of RTI/STI in our study was 13.19%. Majority of patients were married (94.86%), Para 1 and above (93.4%) from low socio economic group (90.6%), illiterate (72.5%) between 26-35 years of age (67.47%). Vaginal discharge (62.51%) and lower abdominal pain / backache (43.42%) were most common presenting complaints. Vaginitis (62.51%), cervicitis (27.81%) and chronic pelvic inflammatory disease (PID) (15.63%) were most frequently encountered RTI/STI. Bacterial vaginosis (49.79%), candidiasis (35.84%) and trichomoniasis (21.33%) were important causes of vaginal discharge either alone or in combination. HIV and VDRL were reactive in only 15 (0.68%) and 11 (0.56%) RTI/STI females respectively. Inflammatory Pap smear was observed in 36.4% cases while nine cases (0.9%) had cervical dysplasia of varying degree.

Conclusion: Vaginal discharge and lower abdominal pain are the commonest presenting complaints. Mixed vaginitis, cervicitis and chronic PID are frequently encountered RTI/STI in Gynae OPD practice. Bacterial vaginosis, candidiasis and Trichomoniasis remain important causes of vaginal discharge. Counselling, testing for HIV/VDRL and pap smear analysis alongwith syndromic management helps in prevention of RTI/STI.

Keywords: Reproductive tract infections, Sexually transmitted infections, Vaginal discharge, Condom.

I. Introduction

Sexually transmitted infections (STIs) / Reproduction tract Infections (RTIs) are an important public health problem in developing world and rank in the top five disease categories for which adult seek health care. They are silent epidemic for women of reproductive age group in developing countries.^[1] RTIs are defined as any infection of the reproductive system. They include STIs and also other infections of the reproductive system that are not caused by sexual contact. STIs are infections transmitted from person to person by sexual contact^[2]. Globally 499 million new episodes of sexually transmitted infections (trichomoniasis, Chlamydia, gonorrhoea, syphilis) occur yearly in the age group 15-49 years of which a significant proportion (80%) of these infections occur in developing countries and 79 million in India alone.^[3] Women are more susceptible to STIs for socioeconomic and biological reasons. The vaginal surface is larger and more vulnerable to sexual secretions than primarily skin covered penis.

11% women and 5% men in 15-49 years age group have RTI/STI related symptoms^[4]. STI/RTI are known to cause infertility and reproductive morbidity affecting not only mother but also new born adversely. STIs have been associated with number of adverse pregnancy outcomes: spontaneous abortion, still birth, pre-maturity, low birth weight, postpartum endometritis and sequelae in surviving neonates. With the recognition of human immunodeficiency virus (HIV) infection in 1980s and subsequent behaviour, social and psychological changes, the pattern of genital ulcer disease has shifted from bacterial to viral STIs.^[5] There is significant

decline of bacterial STIs (Syphilis and gonorrhoea). Chancroid is on verge of disappearance while viral STIs are showing an increasing trend. STIs are markers for high risk behaviour for HIV infection. STIs are biological cofactors for acquisition and transmission of HIV infection.^[6]

II. Materials & Methods

It was an observational study conducted in outpatient department of Obstetric Gynaecology (STI clinic) Government Medical College, Patiala for a period of one year (1-9-2009 to 31-8-2010) on a total of 2294 RTI/STI female patients in the age group of 15-49 years, with an aim to study the prevalence of RTI/STI, to find out commonest RTI/STI and its correlation with HIV, VDRL and Pap smear abnormality, if any. A detailed history with special reference to any abnormal vaginal discharge amount, colour, odour, rash or pruritis over genitalia, frequency / burning micturition, pain lower abdomen / backache, dysmenorrhoea, post coital bleeding, menorrhagia, infertility. History of high risk sexual behaviour (oral / anal sex), number of sexual partners. Gynaecological examination including per speculum and per vaginum examination undertaken with complete audio visual privacy. Women with carcinoma cervix were excluded from study. All patients with RTI/STI referred to ICTC centre for voluntary counseling and testing for HIV antibody test and VDRL/RPR for syphilis. Wet mount, 10% KOH, Whiff test, and gram stain of the vaginal discharge and Pap smear with Ayre's spatula was made in all cases. All RTI/STI patients were treated as per user friendly syndromic approach to management with color coded kits, partner management and provision of condoms, counselling for safe sex with correct and consistent use of condoms done in all cases.

III. Results

With a total outpatient attendance of 17,392 for one year study period, 2294 females were diagnosed suffering from various RTIs/STIs. Overall prevalence of RTI/STI was 13.91%. 15 (0.68%) patients were positive for HIV Antibody Test while VDRL/RPR was reactive in 11 (0.56%) RTI/STI cases (Table 1). Majority of RTI/STI females were married (94.86%), \geq Para one and above (93.36%), in 26-35 years of age (67.47%), from low and low middle socio-economic group (90.68%) and 72.5% were illiterate (Table 2). 62.51% RTI/STI women presented with vaginal discharge followed by 43.42% with lower abdominal pain and backache. Pruritis vulvi, dyspareunia, dysmenorrhoea, polymenorrhagia, dysuria, postcoital bleeding and anorectal discharge were other presenting complaints (Table 3). Majority of patients had more than one complaint. A diagnosis of vaginitis mostly mixed vaginitis made in 62.51% RTI/STI women. Chronic cervicitis in 27.8 and chronic pelvic inflammatory disease in 15.63% followed by urethritis in 4.18% and syphilis in 0.48% (Table 4). Many patients had vaginitis with cervicitis alongwith pelvic inflammatory disease. Bacterial vaginosis (49.79%) was most important cause of vaginal discharge followed by candidiasis in 35.84% trichomoniasis in 21.33% and Bacterial (Neisseria Gonorrhoea) in 13.27% only (Table 5). Mixed Vaginitis due to more than one microorganisms was observed in many cases. Pap Smear cytology report of 996 RTI/STI patients were analysed. 36.4% patient had inflammatory Pap Smear, six cases showed Koilocytosis while 9 women (0.9%) had cervical dysplasia of varying degree (Table 6).

IV. Discussion

The prevalence of RTI / STI in our study group was 13.19% National Family Health Survey III 2005 reports that 11% women and 5% men in 15-49 years age group have STI/RTI related symptoms^[4] almost similar to our results. The prevalence of RTI was 36.3% among women in reproductive age group in Shimla town^[7]. Bohra et al. in their study observed 30% of women had symptoms related to RTI and 19% had STIs. Prevalence of RTI was estimated to be 27% among women by Hodge et al^[9]. 0.68% and 0.56% RTI/STI females in our study group were seropositive for HIV and syphilis respectively. Ray et al. (2009) reported low prevalence of HIV (0.1%) among women with RTI/STI. Khokhar et al reported 0.49% positive for syphilis and 0.39% for HIV^[12]. Majority of patients were married (94.86%), Para 1 and above (93.36%) illiterate (72.5%) from low socio economic status. Similar results were reported by Ray et al.^[10] Majority of our patients (67.47%) were in the age group of 26-35 years as observed by Jindal et al & Gupta^[12,13]. Vaginal discharge (62.51%) was the most common presenting complaint in present study. We reported vaginal discharge in 80% HIV negative and 66% in HIV positive. RTI/STI females in our previous study^[14]. Vaginal discharge (62.51%) and lower abdominal pain / backache were the most common symptoms in our study in accordance with other authors^[9,12,13]. Majority of patients in our study had vaginitis (62.51%), followed by cervicitis in 27.81% and pelvic inflammatory disease in 15.63%. Thus kit-1, kit-2 and kit-6 were utilized to the maximum. The most common cause of vaginitis was observed to be bacterial vaginosis (49.79%) followed by candidiasis in 35.84% and trichomonal in 21.33% while bacterial (gonorrhoea) in 13.27% only. Many of patients had mixed vaginitis. There is significant burden of lower RTI (trichomoniasis, bacterial vaginosis and candidiasis) among women with no evidence to suggest a decline in prevalence, thus affecting quality of their reproductive life^[3]. In our previous study also we observed

that in case of HIV negative women, the most common cause of vaginal discharge was bacterial vaginosis (28%) followed by candidiasis (22%), trichomoniasis 18% and gonorrhoea in 2%.^[14] 36.4% RTI/STI females had inflammatory Pap Smear while 9(0.9%) had cervical dysplasia of varying degree in our study. Pap smear were inflammatory in 56% and 22% in HIV positive and HIV negative STI/RTI women respectively as reported in our previous study.^[14] Seethalakshmi et al reported abnormal Pap smear in 58.8% and 43.75%. HIV positive and HIV negative women respectively.^[15] In a study conducted by Sharma et al inflammatory smears were seen in 55% and 28% while cervical dysplasia was reported in 5% and 3% HIV positive and HIV negative STI/RTI patients respectively.^[16]

V. Conclusion

Prevalence of RTI/STI in our Gynaecology outpatient department, a tertiary Care Hospital was reported to be 13.19% in women of reproductive group. Vaginitis, cervicitis and pelvic inflammatory disease are commonly encountered RTI/STI. There is significant burden of lower RTI (Bacterial vaginosis, candidiasis and trichomoniasis) among women with no evidence to suggest a decline in prevalence. Counselling and testing for HIV/VDRL and pap smear alongwith user friendly Syndromic Approach may go a long way in management of RTI/STI.

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Table 1: Distribution of OPD Gynae patients (1.9.2009 to 31.8.2010)

	N	%age
Total OPD patients	17,392	100
Total RTI/STI Females	2294	13.19
RTI/STI patients with positive HIV Test	15	0.68
RTI/STI patients with Reactive VDRL/RPR	11	0.56

Table 2: Sociodemographic characteristics (Total=2294/100%)

1.	Age in years	N	%
	<20	123	5.36
	21-25	238	10.37
	26-30	912	39.75
	36-40	636	27.72
	> 41-49	233	10.16
2.	Marital Status		
	Married	2176	94.86
	Unmarried	918	5.14
3.	Parity		
	Nulliparous	151	6.64
	≥ Para 1	2143	93.36
4.	Literacy		
	Illiterate	1663	72.5
	Upto Class V	353	15.4
	Class 6 – X	163	7.1
	> Class X	115	5.0
5.	Socio-economic Group		
	Low	1600	69.75
	Low Middle	480	20.93
	Upper Middle	214	9.30

Table 3: Distribution as per Presenting complaints (Total = 2294/100%)

Presenting Complaints	Number	%age
Vaginal Discharge	1434	62.51
Lower abdominal pain & backache	996	43.42
Pruritis (local)	402	17.52
Dysparunia	358	15.63
Dysmenorrhoea	358	15.63
Polymenorrhagea	321	13.99
Dysuria / Burning micturition	102	4.44
Post coital bleeding	26	1.13
Anorectal discharge	11	0.44

Table 4: Distribution according to Diagnosis (Total = 2294/100%)

Diagnosis	Number	%age
Vaginitis	1434	62.51
Chronic Cervicitis	638	27.81
Chronic Pelvic Inflammatory Disease	358	15.63
Urethritis	96	4.18
Anorectal discharge	10	0.44
Syphilis	11	0.48
Herpes simplex	4	0.17
Condyloma accuminata	4	0.17

Table 5: Causative organism in Vaginal Discharge (Total = 1434/100%)

Types of Vaginal discharge	Causative organism	Number	%age
Bacterial vaginosis	Gardenella vaginalis	713	49.79
Candidiasis	Candida albicans	514	35.84
Trichomoniasis	Trichomonal vaginalis	306	21.33
Bacterial	N. gonorrhoea	84	13.27

Table 6: Papsmear Analysis (Total = 996 / 100%)

	N	%age
Normal	618	62.04
Inflammatory	363	36.4
Dysplasia	09	09
Mild	3	0.3
Moderate	4	0.4
Severe	2	0.2
Koilocytosis	6	0.6