J. of Obst. & Gyn. of India Vol. 51, No. 6 : November/December 2001 Pg 134-137

STD Prevalence in Sexually Active Women Attending the STD Clinic of a Tertiary Level General Hospital

Upma Saxena, Shanti Yadav

Department of Obs. and Gyn. Safdarjang Hospital, New Delhi – 1100229.

Summary

Sexually transmitted diseases (STDs) have a great impact on sexual and reproductive health of women and also on their unborn children. This study reports the epidemiological profile and prevalence of STDs among the sexually active females attending the female STD clinic of Safdarjang Hospital, New Delhi. Among 802 cases, 21% were found suffering from various STDs and 1.75% had more than one STD. Majority, 78.3% females presented with symptoms suggestive of vulvovaginitis, however definite etiological diagnosis was made in only 7.98%. Candidiasis was commonest among vulvovaginitis cases, whereas syphilis was the commonest STD seen in 6.86% cases. Mean age was 27.8 years and 50% were of 21 to 30 years. Five were children, less than 12 years of age. Of these 0.87% were unmarried and 3.74% were pregnant. Bad Obstetric History was present in 3.5% and infertility in 2.24%.

Hence, it is concluded that STD prevalence is highest among women between 21-30 years of age, when sexual activity is at its peak. Syphilis still remains the commonest STD observed.

Introduction

STDs are a group of communicable diseases transmitted predominantly through sexual contact. These are important public health problems, because these can result in considerable morbidity as well as long term complications such as male and female infertility, PID, ectopic pregnancy, congenital and neonatal infection (Cates, 1987). With the emergency of AIDS their importance has increased as ulcerative STDs (Syphilis, Chancroid, HSV) and STD producing discharge such as Gonorrhea, Chlamydia trachomatis, and trichomoniasis increase the risk of HIV acquisition and transmission ten and four folds respectively. Older STDs such as syphilis, gonorrhea and HSV worsen in presence of immunodeficiency caused by HIV infection and also become more difficult to treat. (Aral and Holmes 1990). The exact etiological diagnosis is possible only after complete laboratory work up confirming the clinical diagnosis.

Hence, this study was undertaken to determine the epidemiological profile of women attending STD OPD and the prevalence of various STDs.

Material and Methods

Sexually active women, either reporting voluntarily or referred from Gynaecology department or as contacts of their male sex partners, attending the STD clinic of Safdarjang Hospital, New Delhi were studied over a period of 10 months from January 96 to October 96. All patients underwent thorough clinical evaluation. In history special reference was made to elicit previous obstetric mishaps, infertility, LMP and relevant past medical history. Previous h/o STD in the patient or her partner, urinary complaints, penile sore or urethral pus discharge in husband, contraceptives used and h/o multiple sexual partners was also obtained. General physical and systemic examinations were performed with special reference for inguinal LN enlargement. In

local examination, vulva was examined for erythema, edema, excoriation's and ulcerative lesions. Per speculum examination was done, to assess cervical status, vaginal discharge was examined for color, amount, consistency and odor. Cervix was inspected for erosion, friability, eversion, congestion, color of mucus and bleeding on touch. Simutaneously swabs were collected for making smears and for culture and sensitivity. These swabs, for the isolation of various causative organism were taken in three steps. In step 1 smear, two urethral (after massage), two endocervical and four swabs from vaginal fornices were taken. Urethral and endocervical smears, one each were stained with gram staining to look for typical intracellular gram negative diplococci (gonococci) and the other swab was cultured on chocolate agar for gonococci. Four vaginal swabs were analyzed by (1) wet mount for motile trichomonads and clue cells (ii) Gram stain for pseudophae and clue cells (iii) yeast culture on saboraud medium and (iv) Trichomonas culture in Whittington medium. Diagnosis of bacterial vaginosis was made by presence of clue cell and conspicuous absence of leukocytes in vaginal secretions. Diagnosis of bacterial vaginosis was further confirmed by performing whiff test (addition of 10% KOH to vaginal secretions releases a fishy amine like odour).

In step II and III smears, only one swab each, was taken from urethra and endocervix for gram staining in order to demonstrate the presence of gonococci. Also four swabs were obtained from vaginal fornices to carry out the above mentioned test.

In cases of genital ulcers the ulcers were cleaned with saline and serum expressed was examined by (i) Dark field microscopy which reveals spirochetes in case of syphilis, (ii) Gram stain which shows typical chaining or school of fish appearance in chancroid (iii) Geimsa staining shows multinucleate giant cells in HSV infections. Condyloma accuminatum (HPV) was confirmed by histological examination of the lesions. Cases positive for HPV were further screened by colposcopy to exclude CIN and malignancy of the Cervix. Granuloma inguinale diagnosis was made by biopsy of pseudobulbos and beefy ulcers. Molluscum contagiosum diagnosis was confirmed by smear examination of the papules stained with Giemsa. I ympho Granuloma Venerum (LGV) was diagnosed clinically on the basis of typical groove sign, hypertrophic ulcers and elephantiasis vulva.

Routine lab tests done were VDRL and positive VDRL cases were further subjected to TPHA (Treponema Pallidum Haemagglutination(which is a specific serological test for syphilis. All the patients were tested for AIDS by performing ELISA for HIV.

Observation and Results

Of 802 women attending STD OPD, 168 (21%) were found positive for various STDs. More than one STD was isolated in 14(1.75%) women. The mean age was 27.8 years (range – 6-52 yrs) (Table I). Majority cases 84(50%) were of 21-30 yrs, 29(17.26%) were of 15-20 yrs. Five (2.98%) cases were children below the age of 12 yrs. All were married except 7(0.67%). Majority (85.72%) of these females were either illiterate or had been to school only. All of them belonged to low / low middle socio-economic strata. In 17.86% pregnant women, various STDs observed were Syphilis (II), Candidiasis (8), Genital warts (6), Herpes Simplex (3), Chancroid (1) and Molluscum Contagiosum (1). Eighteen (10.7%) cases had infertility (Primary – 11 and secondary – 7) and 28 (16.67%) had BOH.

Table I
Clinical profile of STD positive cases (N=168)

Characteristics	Number	Percentage
Age in years*		
<12	5	2.98%
13-20	30	17.86%
21-30	84	50%
31-40	38	22.61%
41-50	9	5.36%
51-55	2	1.19%
Marital Status		
Married	161	95.83%
Unmarried	7	0.87%
Literacy Status		
Illiterate	70	41.66%
Schooling	74	44.05%
Graduate	24	14.29%
Socioeconomic Status		
Low (1 < Rs. 2000)	88	52.38%
Lower Middle (1 > Rs. 2000)	80	47.62%
Obstetric History		
Pregnant	30	17.86%
BOH	28	16.66%
Infertility	18	10.71%

• Mean age (Range) = 27.8 yrs (6 – 52 yrs)

As shown in Table II, 84(50%) females used family planning methods, the most popular being tubal ligation (n-34 ie. 20.24%). As seen in Table III, majority 628 (78.3%) women presented with signs and symptoms of vulvovaginitis, that is with vaginal discharge, itching, odor and vaginal discomfort. However specific laboratory diagnosis was possible in only 64 (7.98%) cases. Among the clinical findings, most cases presented

with vaginites 310 (38.65%) followed by cervical erosion (128 = 15.96%), Vulvovaginites (113 = 14.1%) and intertrigo (77 = 9.6%). As shown in Table IV, among the various STDs syphilis was the commonest (6.86%) and of these 5(0.62%) women besides syphilis had associated other STDs, such as BV, HV, Chancroid, HIV infection and Candidiasis, one each. None of these cases had primary syphilis, whereas 22 (2.74%) had secondary, 6 (0.75%) early latent and 27(3.37%) had late latent syphilis. Eleven syphilis positive women were pregnant and all had late latent syphilis except one, who had secondary syphilis. The next common STD was Candidiasis, present in 42 (5.24%), of which 3 had associated HSV (1), Trichomoniasis (1) and late latent syphilis (1). Among Candidiasis cases 8 (19.05%) were pregnant. Herpes Progenitalis infection was found in 19 (2.37%) patients. Among these 5 had associated Chancroid (1), HPV (1) Trichomoniasis (1), Candidiasis (1) and Molluscum Contagiosum (1) and 3 of these females were pregnant.

Table II
Distribution of cases according to contraceptive use (N=168)

Pt. Profile	Contraception used	Number	Percentage
Nonpregnant		138	82.14%
	Tubal Ligation	34	20.24%
	Condom	24	14.29%
	IUCD	17	10.12%
	Oral Contraception	9	5.36%
	None	54	32.14%
Pregnant		30	17.86%
Total		168	100%

Table III
Clinical and Lab Diagnosis among cases with S/S of Vulvovaginitis (N=802)

Diagnosis	Number	Percentage
A. Clinical	628	78.3%
Vaginitis	310	38.65%
Cervical Erosion	128	15.96%
Vulvovaginitis	113	14.1%
Intertrigo	77	9.6%
B. Laboratory	64	7.98%
Candidiasis	42	5.24%
Trichomoniasis	15	1.87%
Bacterial Vaginosis	7	0.87%

Trichomoniasis was diagnosed in 15 (1.87%) women and four of these had associated STDs such as herpes, Gonorrhea, Chancroid and Syphilis one each. Genital warts (HPV) was observed in 12(1.5%), 2 of these cases had associated HSV and Bacterial Vaginosis one each and 6 of them were pregnant.

Table IV
Showing Prevalence of Various STDs (N=802)

STD	Number	Percentage
Syphilis	55	6.86%
Candidiasis	42	5.24%
Herpes Genitalis	19	2.37%
Trichomoniasis	15	1.87%
Chancroid	12	1.5%
Human Papillomavirus	12	1.5%
Gonorrhea	10	1.25%
Bacterial Vaginosis	7	0.87
HIV infection	5	0.62
Molluscum Contagiosum	3	0.37
LGV	1	0.12%
Granuloma Inguinale	1	0.12%
Total*	168	21%

* of 168 positive cases, 14 has multiple STDs.

Chancroid was seen in 12 (1.5%) and 2 of these cases had associated Herpes and secondary syphilis, one each.

Gonorrhea was diagnosed in 10 (1.25%) and 2 of these had associated Trichomoniasis (1) and Bacterial Vaginosis (1). All women were asymptomatic contacts of known cases except one who presented with foul smelling mucopurulent discharge.

Bacterial Vaginosis was diagnosed in 7(0.87%) cases and 3 of these women had associated HPV (1) Gonorrhea (1) and early latent syphilis (1). HIV infection was observed in 5(0.62%) and 4 of these females were asymptomatic but one had florid AIDS with associated secondary syphilis and disseminated Kochs. Molluscum Contagiosum was diagnosed in 3(0.37%) women and one had associated HSV infection. LGV and Granuloma Inguinale was observed in only one case in each group. All cases were treated according to the universally accepted method of treatment of various STDs. On follow up all patients were found to be cured both clinically and by lab diagnosis. In none of these cases, either presence or recurrence of the disease was noted.

Discussion

STD prevalence in a society had great impact on sexual and reproductive health of a women and also on her unborn child. In our study syphilis was found to be the most common STD with a prevalence of 6.86%. Of 55 cases of Syphilis one fifth (11) were pregnant and similar increased prevalence of syphilis in pregnancy leading to increase in congenital syphilis has been

reported in USA over the past decade (CDC 1993). Women with primary and secondary syphilis are more likely to transmit infections to their offspring's compared to those with latent disease (Ingall and Musher, 1983). However, in present study only one had secondary syphilis and none had primary syphilis.

Harter and Bernirschke (1976) have documented that T. Pallidum can infect the fetus as early as 8 weeks. This emphasizes the importance of screening, diagnosing and treating syphilis early in pregnancy. In our study, syphilis was observed to be the main STD responsible for BOH and of 28 cases of BOH, 27 were positive for syphilis and one had Chancroid. In the present study half of the females with warts were pregnant and that there is increased frequency and severity of genital warts in pregnancy has also been reported by others (Gary and Jone 1985). Pregnant women were treated with cryotherapy as podophyllin is contraindicated because the lesions are profuse and vascular predisposing to systemic absorption which can cause fetal death and maternal neuropathy (CDC – 1993).

Majority of women in our study with Gonorrhea were asymptomatic contacts of infected men. Similar observations have been made by Hook and Handssfield (1990) in their series. Prevalence of Gonorrhea of 1.25% in the present study is quite low compared to prevalence of 25% reported by U.S. Dept. of Health and human services (1981). Inj. Ceftriaxone 125 mg IM single dose is treatment of choice along with presumptive treatment for Chlamydial infection (CDC – 1993).

In cases of Vulvoganitis, a definite lab diagnosis was possible only in 7.98% cases. This low isolation rate may be due to the fact that most of these cases had already taken empirical treatment before reporting. Candidiasis was the most common form of vaginitis in this study and same has been observed earlier (Osbourne et al 1982). However Kent (1991) had reported that BV is commonest vaginitis in USA. The treatment given in non-pregnant females was single dose of 150 mg Fluconazole as it has been reported that it is as effective as intravaginal pessary or oral Ketoconazole with better patient compliance and acceptance (Patel et al 1992). In our study 19.05% women with Candidiasis were pregnant and that Candidiasis is 10 to 20 times more frequent in pregnancy has also been reported by Gardner and Kautman (1969). All these pregnant cases were successfully treated with 2% miconazole cream or Vaginal pessary.

Trichomoniasis noted in 1.87% cases of our series was diagnosed by both wet smear and culture. All these patients as well as their spouses were treated simultaneously with 2 gm metronidazole as single dose therapy as it is as effective as multidose therapy (Aubert and Sesta, 1982).

All women with Bacterial Vaginosis were treated successfully with 2 gm metronidazole as single dose therapy as recommended by Sweet (1993). However CDC (1993) has reported cure rate of 95% for 7 days regimen and only 84% for 2 gm single dose regimen.

Conclusions

It can be concluded that STD prevalence is highest between 21-30 yrs of age when sexual activity is at its peak. Majority of females presented with symptoms suggestive of vulvovaginitis. However, definite etiological diagnosis could be made in only 7.98% of the patients, because most of them had already empirically taken combined treatment for Candidiasis, Trichomonas Vaginalis and Bacterial Vaginosis. This included single dose 150 mg Fluconazole and 2 gm of metronidazole or Tinidazoe. This might have led to decreased isolation of organism in culture. Presently age old syphilis remains the most prevalent STD in India, although the prevalence of HIV infections and other newer STDs is fast increasing. Syphilis was also found to be the main culprit for BOH. STDs probably are also major cause for female infertility. The isolation of Chlamydia Trachomatosis which is the main culprit implicated for tubal infertility is routinely not investigated in our hospital. Most symptomatic women have relief of their symptoms by specific chemotherapy directed against the causative agent. As both STDs and HIV infections are associated with the same risk behavior which is unprotected sexual intercourse and multiple partners. Thus, the measures that lead to prevention of STDs also prevent sexual transmission of deadly AIDS. Hence we as Obstetricians should try to make public aware about the importance of STD prevention, early diagnosis and prompt and complete treatment to avoid long term sequalae.

References

1. Aral SO, Holmes KK. Sexually transmitted diseases New York ed. 1990, 19, McGraw Hill
2. Aubert JM, Sesta HJ. J Reprod Med 27: 743, 1982
3. Cates W Jr. Infect Dis Clin North Am 1: 1, 1987
4. Centre for Disease Control 42: 27, 1993
5. Gardner HL, Kautman RH. Benign Diseses of Vulva and Vagina, 1969; 149, St. Louis CV Mosby Company
6. Garry R, Jone R. J Reprod Med 30: 393, 1985
7. Harter CA, Bernirschke. Am J Obstet Gynecol 124: 705, 1976.
8. Hook EW III, Handssfield HH. Sexually transmitted diseases. New York 1990, 149, McGraw Hill
9. Ingall D, Musher D. Infectious diseases of the fetus and new born infants 1983, 335, Philadelphia WS Sanders
10. Kent HL. Am J Obst Gyn 138: S19, 1991.
11. Osbourne NG, Grubin L, Pratson L. Am J Obst Gyn 142: 962, 1982.
12. Patel HS, Peters MD., Smith CL. Ann Pharmaco Ther 26: 350, 1992
13. Reid R, Greenberg MD, Lorincz AL, et al. Am J Obst Gyn 161: 1462, 1991.
14. US Department of Health and Human Services. Basic statistics on the sexually transmitted disease problem in the united States: Edition 35, 1981, HHS Publ No (CDC); 81; 8195.