Journal of Medical Research and Health Sciences
Received 3 June 2021 | Revised 10 July 2021 | Accepted 30 July 2021 | Published Online 7 Aug 2021

DOI: https://doi.org/10.15520/jmrhs.v4i8.386
JMRHS 4 (8), 1381–1386 (2021)

ISSN (O) 2589-9031 | (P) 2589-9023

Research Article Open Access Journal

"Clinical Pattern Of Sexually Transmitted Infections And Sexual Behavior In Patients With Genital Symptoms- A Cross Sectional Descriptive Study"

Md. Nazrul Islam Bhuiyan*

[1]Associate Professor, Dept. Of Dermatology, Medical College for Women & Hospital (MCW&H), Uttara, Dhaka, Bangladesh

Abstract

Background: Sexually transmitted infections (STIs), including hu-man immunodeficiency virus (HIV), continue to present major health, social, and economic problems in the developing world, leading to considerable morbidity, mortality, and stigma. Despite the availability of effective treatment and preventive measures, incidence of STIs is increasing even in developed countries. STIs, acting as a facilitator for the spread of HIV have become a globally important issue at present context. **Objectives:** To determine the pattern of sexually transmitted infections along with their sexual behaviour in patients presenting with genital symptoms. **Material and Methods:** A cross sectional, descrip-tive study was carried out in the department of Dermato-venereology, Medical College for Women & Hospital (MCW&H), Uttara, Dhaka, Bangladesh. During one year period, a total of 130 consecutive cases were enrolled in this study. The diagnosis of infections was made clinically with relevant laboratory investigations and they were inter-viewed for their sexual behaviour after taking consent and assuring confidentiality. **Results:** The average age of this population was 27.84 years. Majority belonged to age group 15-24 years, with male to female ratio of 3.19:1. Many (52.3%) were married. The most common infection was condyloma acuminate (29.2%). The mean age of sex debut was 18.95 years and majority (50.8%) belonged to 15-19 years group. The median number of life time partners was 2.0. Only 43 (33.1%) were on monogamous relationship. The 15-34 age groups had maximum number of sexual partners. Married person living singly had more frequent extramarital contact. Only 10 (7.7%) used condom consistently. **Conclusions:** Younger people should be educated about monogamous relationship along with correct and consistent use of condom for the prevention of STIs.

Keywords: Sexually transmitted infections, Sexual behavior, Genital Symptoms Corresponding

1 | INTRODUCTION

Sexually transmitted infections (STIs), including human immunodeficiency virus (HIV), continue to present major health, social, and economic problems in the developing world, leading to considerable morbidity, mortality, and stigma. According to World Health Organization (WHO) estimate in 2008; 500 million of new cases of curable STIs occur annually throughout the world.[1] The prevalence rates apparently are far higher in developing countries where STI treatment is less accessible. Worldwide STIs are a major cause of acute illness, infertility, long-term disability, economic loss and death. If non curable or viral STIs are also included, the number of new cases may be three times higher.[2] Despite the availability of effective treatment (for all curable STIs) and preventive measures, STIs are still a major public health issue for both industrialized and developing countries.[3]The presence of an untreated STI (ulcerative or non-ulcerative) increases the risk of both acquisition and transmission of HIV up to three times more than in non STI person.[1] Due to lack of proper reporting system, STI data are scarce and nonspecific in Bangladesh. Most of the studies have been carried out in high risk groups and show high prevalence of STIs including HIV in these groups.[4,5] According to a study conducted at DV department of BPKIHS Dharan 1999, the most common STI was syphilis followed by Chlamydia[6]; whereas in a study conducted among male out patients, NGU was in the first rank.[7] It has been seen that improvement in the management of STI can reduce the incidence of HIV infection in the general population by about 40%.[8] In view of tremendous public health burden imposed by STI, with its acting as a facilitator for the spread of HIV, it has become a global burning issue at present context. Moreover the pattern of STI is changing in the world. The burden of curable bacterial STI which were predominant some years back are gradually shifting towards non-curable viral STI further complicating the scenario. Therefore, considering the changing pattern of STI in the world, it would be beneficial to find out the existing patterns of STI and sexual behaviour of the people in our own society.

2 | MATERIALS AND METHODS

A cross sectional study was carried out in the department of dermatology-venereology, Medical College for Women & Hospital (MCW&H), Uttara, Dhaka, Bangladesh over a period of one year, May 2019-April 2020. A total of 130 patients were enrolled in the study who presented with STI related symptoms and/or positive serological tests for syphilis. After assuring confidentiality for the provided information verbal consent was taken from each patient. The patients were interviewed according to a standard proforma which contained demography of patient, presenting complaint and sexual behaviour. The diagnoses were made clinically and were supported by relevant laboratory investigations.[9] the diagnosis of herpes genitalis was done on clinical ground supported by serology. Genital wart and Molluscum contagiosum were diagnosed on clinical ground only; RPR test confirmed by TPHA for syphilis and ELISA test for HIV was carried out in all patients with genital symptoms after providing voluntary counseling and testing (VCT). Those refusing test; denying sexual exposure; less than 15 years and not willing to participate in the study were excluded from the study.

3 | RESULTS

A total of one hundred thirty patients who presented with genital symptoms were studied. The average age of this population was 27.84 years (±8.15) and it ranged from 15-58 years. 41.53% belonged to age group 15-24 years, followed by 25-34years (37.69%); 35-44yrs (17.69%) and > 44yrs (3.07 %). Males outnumbered females, constituting 76.2% of the total patients, with male to female ratio of 3.19:1. Regarding educational status, only 10% were illiterate though majority (32%) had studied up to secondary level, SLC (29%), plus two (13%)

Supplementary information The online version of this article (https://doi.org/10.15520/jmrhs.v4i8.386) contains supplementary material, which is available to authorized users.

Corresponding Author: *Md. Nazrul Islam Bhuiyan Associate Professor, Dept. Of Dermatology, Medical College for Women & Hospital (MCW&H), Uttara, Dhaka, Bangladesh*

and 16% were going to university. Clinical presentation of patients and pattern of STIs: Out of the total 130, some had multiple complaints while others were asymptomatic. Fleshy growth/papule on genitalia was the most common symptom observed in both sexes (Table 1).

Symptoms	Male	Female	Total
Discharge	23	3	26
Ulcer	19	2	21
Fleshy growth/papule	26	17	43
Itching	12	3	15
Genital pain	11	2	13
Burning micturition	23	1	24
	114	28	142*
*Number is more than the study population because some patients had more than one symptom.			

Table 1: Clinical presentation of the patients (N=130)

The most frequently encountered infection in both male and female was condyloma acuminate 38 (29.2%). The infections were common among both married and unmarried people (Table 2). Other group of people who had no STI (23.1%) was suffering from venereophobia, pearly penile papules and some form of dermatitis. No case of Trichomonas Vaginalis and HIV infection was encountered in this study. Genital wart was common mainly among students, housewives and transportation worker. Other infections were equally dispersed in all other occupation groups (Table 3).

STIs	Married	Unmarried	Divorce	Widow	Total (%)
Syphilis	17	6	2	1	26 (20)
Genital wart	23	15			38 (29.2)
GU	9	7			16 (12.3)
NGU	2	5	1		8 (6.2)
HSV	4	5			9 (7)
MC	3				3 (2.3)
Other	14	16			30 (23)
Total	72	54	3	1	130

Table 2: Pattern of STIs in relation to marital status (N=130)

Sexual behaviour of the patients: Premarital sex and age of sex debut along with extramarital contact (Table 4). Of the total, 54 were unmarried and were already in sexual relationship. Out of 76 married persons, 26 (34.2%) had premarital sex and out of them 21 were male and 5 were female. The mean age of sex debut was 18.95 years (±3.13) and ranged from 13 -28 years. Majority (50.8%) had their first sexual exposure at the age of 15-19 yrs of age whereas

Occupation	Syphilis		Genital wart		GU		NGU		HSV		MC		Other		Total (%)
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Student	2		4	4	2		2		2	1			8		25 (19.2)
Housewife		5		5				1		1		2		1	15 (11.5)
Farmer	4		2		4				3				1		7 (5.4)
Security personnel	1		2						1				8		18 (13.8)
Business		2	3	3	1								4		14 (10.8)
Transport staff	2		5		2								2		11 (8.5)
Hotel staff	1		2	1	2		1						1		8 (6.2)
Labourer	2						1						1		3 (2.3)
Unemployed	1	1	1	1	3		3		1				4		13 (10.0)
Others	4	1	4	1	1	1					1				16 (12.3)
Total	17	9	23	15	15	1	7	1	7	2	1	2	29	1	130

Table 3: Pattern of STIs by occupation andgender (N=130)

13.8% were even young. Out of 130 persons, 58 (44.7%) had contact with friend or known person as their first partner whereas others had contact with commercial sex workers (CSWs) and other unknown casual contacts.

Behaviour	Male	Female	Total (%)
1. Age of sex debut			
<15 yr	9	6	15 (11.6)
15-19 yr	52	18	70 (53.8)
20-24yr	30	6	36 (27.7)
>25yr	8	1	9 (6.9)
2. Type of partner for sex debut			
Wife/husband	28	19	47 (36.2)
Friend	26	8	34 (26.2)
Village girl/boy	22	2	24 (18.4)
CSW	20	0	20 (15.4)
Relatives	3	2	5 (3.8)
3. Use of condom in last contact			
Yes	28	3	31 (23.8)
No	71	28	99 (76.2)
4. Purpose of using condom			
Prevention of pregnancy	30	10	40 (50)
Protection of STI/HIV	36	1	37 (46.2)
Do not know	3	3	3 (3.8)
5. Extramarital contact (out of 76 ever married person)			
Yes	36	3	39 (51.4)
No	16	21	37 (48.6)
7. Regularity of staying together with spouse			
Irregular	29	8	37 (28.5)
Always together	20	13	33 (25.4)
Spouse in foreign land	3	3	6 (4.6)
Unmarried	47	7	54 (41.5)

Table 4: Characteristics of sexual behavior(N=130)

Out of 76 ever married persons 52 were married male, among them 36 (69.2%) gave history of extra-marital contact (EMC) and out of 24 married female, only 3 (12.5%) gave similar history. Those who went for EMC, CSWs were the partners for majority. The median number of life time partners was 2.0 (range, 1 to 150). The 15-34 age groups had maximum number of partners. Males seemed to have multiple partners compared to females (Table 5).

Only 43 (33.1%) had only one sexual partner while rest had more than one partners. Among total 31 female patients, 21 admitted a monogamous rela-tionship and 20 out of them had some form of STIs (Table 6).

Number of partners	15-24	25-34	35-44	>45	Total		Total (%)
					M	F	
1	21	16	4	2	22	21	43 (33.1)
2-4	33	17	11	2	53	10	63 (48.5)
5-7	3	7	0	0	10	0	10 (7.7)
8-10	1	1	2	0	4	0	4 (3.1)
>10	6	3	1	0	10	0	10 (7.7)
Total	64	44	18	4	99	31	130

Table 5: Number of life time partners by age group in years (N=130)

No of partner	Syphilis		Genital wart		GU		NGU		HSV		MC		Other		Total (%)
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1	3	7	5	8	3			1	1	2		2	10	1	43 (33.1)
2-4	13	2	16	7	6	1	2		5		1		10		63 (48.5)
5-7			1		3		2						4		10 (7.7)
8-10	1												3		4 (3.1)
>10			1		3		2		1				3		10 (7.7)
Total	17	9	23	15	15	1	7	1	7	2	1	2	29	1	130

Table 6: Relation between number of life time partners and pattern of STIs (N=130)

Staying with spouse	Extramarital contact		Total (%)
	Yes (%)	No (%)	
Always together	10 (13.1)	23 (30.2)	33 (43.4)
Spouse in			
foreign/outside	5 (6.5)	1 (1.3)	6 (7.8)
Irregular	24 (31.5)	13 (17.1)	37 (48.6)

Table 7: Extramarital contact and regularity of stay with spouse (N=130)

Out of 130 people only 31 (23.8%) had used condom in the immediate past. Only 10 (7.7%) were con-sistent users, majority were 70 (53.8%) occasional users, and 50 (38.5%) had never used condom in their lifetime. Interestingly, 18 (13.8%) said that their use of condom depends upon who their partners are. They used condom with casual partners but not with their wives. Preventing from pregnancy was the most important motivating factor for the condom use. (Table 4). Out of 76 ever married people, those who did not stay together with their spouse were likely to have EMC (Table 7).

4 | DISCUSSION

The average age of the patients in this study was 27.84 years (±8.15) with male to female ratio of 3.19:1. Majority belonged to the age group 15- 24 years. Males outnumbered females as in several other studies.[10−15] the reason behind this less number may be due to the fact that STI symptoms in females are less pronounced than in males and more often female patients attend Gynaecology clinic first.[16] Moreover socio-cultural restrictions prevent them from visiting STI clinic until becomes unbearable. High male preponderance may be due to more freedom they enjoy in the society and also existence of higher degree of promiscuity among them.12 The bulk of patients in 15-24 years group are possibly due to increased sex-ual activity among this population. This could have happened because of the so-called westernization of our society where youth is being liberal in terms of sex and sex related matters. Regarding the occu-pation, majority were students followed by security personnel and then housewives. But in other stud-ies STI were more common among agriculturists17, housewives12 and laborers.11 the reason for large number of students visiting our clinic might be due to students comprising the bulk of sexually active young age group that were residing in the capital and were more conscious and aware about their health. In both males and females, the predominant symp-tom as well as disease observed in this study was warty growth in genitalia (29.2%). The next com-mon complaint was genital discharge followed by burning micturition. This finding contradicts with the observation made by Pokhrel7 in a 5 year

prospective study conducted in the same place, where burning or pain and itching in and around genitalia were the predominant symptoms. All cases were latent syphilis. No case of HIV was found in our study, a finding similar to that in other studies.6,12,17 All types of STI were common among married people, similar to others .10,11,17Similarly genital discharge18 and genital ulcer10 were the predominant symptom in other studies. The median number of life time partners in our study was 2.0; interestingly it ranged from single partner to up to 150 partners. Among total 31 female patients, 21 admitted a monogamous relationship and 20 out of them had some form of STIs. This finding shows that the major source of infection for female patients was their spouse or sex partner while premarital and extramarital exposures were the major sources for males. These people (44.62%) had friend or known person from village as their first sexual partner but later on CSWs were the partners for the majority of these persons, similar to the observation of Nair.11The predominance of warty growth in this study could be due to changing trend of STI which is now shifting from bacterial towards viral predominance. The increasing trend of viral STI has also been observed by many others.10−12,19−22

Syphilis was the second commonest disease seen in our patients, similar to that reported in other studies.[11,21,22] The mean age of sex debut was 18.95 years in this study which was comparable to other studies.[6,23] Majority (50.8%) experienced it between 15- 19 years while some (13.8%) were even young. Males (85%) seemed quite advanced in this matter as in other observations.[11,23] Contrary to this a late sexual debut (23years) was observed among educated women in another study[24] whereas literacy rate of women in our part of the world is still very low and moreover they get married earlier in our society. Males enjoy freedom in all aspects of society including sex because of which there is male preponderance in STIs at an early age. Sexual debut at younger age makes them likely to have multiple partners in future which make them vulnerable for acquisition of STIs.[24] This could be due to the fact that this age group being more sexually active, had their first encounter in village with friend or known person at very young age and when they migrated to bigger cities they got engaged with CSWs. Married persons constituted 52.3% in this study which is sim-ilar to that of other studies.10−1,17 The present study also showed that each STI is more common among married people which was also a similar finding in other studies.10,11,17 Out of 52 married male, 36 had extramarital contact whereas out of 24 married female only 3 admitted this, a finding similar to that of Narayanan.10Among ever married, 26 (34.2%) had premarital contact while all the unmarried population had experienced sex (criteria for inclusion in this study). This shows that married or unmarried, who are staying alone are likely to have high risk behav-ior. Unmarried and those married but living apart from their partners were at significant risk for ac-quiring STDs25,26 because they were exposed to high risk sexual behavior to satisfy their sexual desire, eventually increasing the chance of acquiring STIs. Though condom is used as one of the preventive measures for STI/HIV only 23.8% had used it in the last exposure, 50% used condom to avoid pregnancy whereas only 45% used this for disease prevention, a finding similar to that of Flleischer.27 The wives of those who used condoms only sometimes depending upon their partners, are vulnerable for acquisition of STI/HIV from their spouses.

5 | CONCLUSIONS

Adolescents and young adults should be provided with sex education about delaying sex debut and protective measures (correct and consistent use of condom during every sexual act) to prevent these infections with especial focus on monogamous relationship. Government and other service providers should ensure a conducive environment so as to keep couples together thus reducing the extramarital exposure.

References

1. World Health Organization. Sexually Transmitted Infections. Fact sheets no 110. Updated on Nov 2013. Cited on: Feb 24 2014.

2. Reproductive health research. Sexually Transmitted and Other Reproductive Tract Infections. Integrating STI/RTI care for reproductive health. A guide to essential practice. World health organization 2005. P.14-19.
3. Fenton KA, Lowndes CM. The European Surveillance of Sexually Transmitted Infections (ESSTI) Network. Recent trends in the epidemiology of sexually transmitted infections in the European Union. Sex Transm Infect 2004; 80: 255–63.
4. Family Health International.STD prevalence study among women in migrant communities of Kailali district, Nepal. 2001 National Centre for AIDS and STD control 2001. p. 9.
5. Family Health International. New Era, STD/ AIDS Counseling and Training Services. STD and HIV prevalence survey among female sex workers and truckers on highway routes in Terai, Nepal: FHI 2000. P.16, 25 site resources.worldbank.org/ INTTSR/Resources/462613-1135099994537/STD HIVhighway/.pdf
6. Garg VK, Agrawal S, Deb M, Khanal B. Sexual habits and clinico-etiological profile of sexually transmitted diseases in Nepal. J Dermatol 2001; 28: 353-9.
7. Pokhrel DB. Sexually Transmitted Infections, Sexuality and STI Stigma among Nepalese youth and adults. Nepal J Dermatol Venereol Leprol 2009; 8: 6-9.
8. Bunnell RE, Dahlberg L, Rolfs R. High prevalence and incidence of sexually transmitted diseases in urban adolescent females despite moderate risk behaviour. J Infect Dis 1999; 180: 624-31.
9. Centers for Disease Control and Prevention. Case definitions for infectious conditions under public health surveillance. MMWR. 1997; 46 (No. RR- 10): 9, 14, 34,47,48,50.
10. Narayanan B. A retrospective study of the pattern of sexually transmitted diseases during a ten- year period. Indian J Dermatol Venereol Leprol 2005; 71: 333-7.
11. Nair TVG, Asha LK, Leela kumari PV. An epidemiological study of sexually transmitted diseases. Ind J Dermatol Venereol Leprol 2000; 66: 69-72.
12. Kavina BK, Billimoria F, Rao MV. The pattern of STDs & HIV seropositivity in young adults attending STD clinic of civil hospital Ahmedabad. Indian J Sex Transm Dis 2005; 26: 60-3.
13. Thappa DM, Singh SA. HIV infection and sexually transmitted diseases in a referral STD centre in south India. Sex Transm Infect 1999; 75: 191.
14. Krishnamurthy VR, Ramachandran V. STD trends in chengalpattu hospital. Indian J Dermatol Venereol Leprol 1996; 6: 3-12.
15. Chatterjee M, Ramadesan P. Profile of sexually transmitted diseases in and around jabalpur, MP. Indian J Sex Transm Dis 2004; 25: 13-7.
16. Zamzachin G, Singh B, Biyanti D. STD trends in regional Institute of Medical Sciences, Manipur. Indian J Dermatol Venereol Leprol 2003; 69: 151-3.
17. Murugesh SB, Sugareddy, Raghunath S. Pattern of sexually transmitted diseases at Davangere. Indian J Sex Transm Dis 2004; 25: 9.
18. Madani TA. Sexually transmitted infections in Saudi Arabia. BMC Infect Dis 2006; 6: 3.
19. Ghosh SK, Roy AK. A ten year study of STD cases in an urban clinic in Calcutta. Ind J Dermatol Venereol Leprol 1994; 60: 323-6.
20. Mohanty J, Das KB, Mishra C. Clinical profile of sexual transmitted diseases in cuttack. Indian J Dermatol Venereol Leprol 1995; 61: 143-4.
21. Kumar B, Bakaya V. Pattern of sexually transmitted diseases in chandigarh. Indian J Dermatol Venereol Leprol 1987; 53: 86-91.
22. Mishra M, Mishra S, Singh PC, Mishra B, Pande P. Pattern of sexually transmitted diseases at VSS Medical College. Indian J Dermatol Venereol Leprol 1998; 64: 231-2.
23. Singh SK, Krishna G, Manandhar N, Singh CM. A study on prevalence of premarital sex among adolescent students. J Inst of Med 2006; 28: 35-8.
24. Chen SM, Hoek AVD, Shao CG, Wang L, Liu DC, Zhou SJ, Peng YC, Li CL. Prevalence of and risk indicators for STIs among women seeking induced abortions in two urban family planning clinics in Shandong province, People's Republic of China. Sex Transm Inf 2002; 78: e3.

25. Moses S, Muia E, Bradelly KJ. Sexual behavioral disease transmission and control. Social Science Medicine 1994; 18: 747-61.
26. Shendre MC, Tiwari RR. Social risk factors for sexually transmitted diseases. Ind J Dermatol Venereol Leprol 2002; 68: 25-7.
27. Panchanadeswaran S, Johnson SC, Mayer KH. Gender differences in the prevalence of sexually transmitted infections and genital symptoms in an urban setting in southern India. Sex Transm Infect 2006; 82: 491–5.

How to cite this article: Bhuiyan M.N.I. "Clinical Pattern Of Sexually Transmitted Infections And Sexual Behavior In Patients With Genital Symptoms- A Cross Sectional Descriptive Study". Journal of Medical Research and Health Sciences. 2021;1381−1384. https://doi.org/10.15520/jmrhs.v4i8.386