

Pattern Of Sexually Transmitted Infections And Sexual Behavior In Patients With Genital Symptoms

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Abstract

Background: Sexually transmitted infections are a major cause of acute illness, infertility, long-term disability, economic loss and death throughout the world. 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, descriptive study was carried out in the department of dermato-venereology, TUTH. 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 interviewed 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 accuminata (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

Key words: Sexually transmitted infections, Sexual behavior

Introduction

Worldwide STIs are a major cause of acute illness, infertility, long-term disability, economic loss and death. According to World Health Organization (WHO) estimate in 2008; 500 million of new cases of curable STIs occur

annually throughout the world.¹ 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

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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 Nepal. 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 Chlamydia⁶; 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.

Material and Methods

A cross sectional study was carried out in the department of dermatology-venereology of Trivuban University Teaching Hospital over a period of one year, June 2008- May 2009. 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.

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%) 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. Fleishy growth/papule on genitalia was the most common symptom observed in both sexes (Table 1).

Table 1: Clinical presentation of the patients

Symptoms	Male	Female	Total
Discharge	23	3	26
Ulcer	19	2	21
Fleishy growth/papule	26	17	43
Itching	12	3	15
Genital pain	11	2	13
Burning micturition	23	1	24
	114	28	142*

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*Number is more than the study population because some patients had more than one symptom.

The most frequently encountered infection in both male and female was condyloma accuminata 38 (29.2%). The infections were common among both married and unmarried people (Table 2).

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)

Table 2: Pattern of STIs in relation to marital status

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

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).

and ranged from 13 -28 years. Majority (50.8%) had their first sexual exposure at the age of 15 -19 yrs of age whereas 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.

Table 3: Pattern of STIs by occupation and gender

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 4: Characteristics of sexual behaviour

<i>Behaviour</i>	<i>Male</i>	<i>Female</i>	<i>Total (%)</i>
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)

Out of 76 ever married persons 52 were married male, among them 36 (69.2%) gave history of extramarital 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 (Table 5).

Males seemed to have multiple partners compared to females.

Table 5: Number of life time partners by age group in years.

<i>Number of partners</i>	<i>15-24</i>	<i>25-34</i>	<i>35-44</i>	<i>>45</i>	<i>Total</i>		<i>Total (%)</i>
					<i>M</i>	<i>F</i>	
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

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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 relationship and 20 out of them had some form of STIs (Table 6).

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

Table 6: Relation between number of life time partners and pattern of STIs

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

Use of condom

Out of 130 people only 31 (23.8%) had used condom in the immediate past. Only 10 (7.7%) were consistent 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).

Table 7: Extramarital contact and regularity of stay with spouse

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)
Total	39 (51.3)	37 (48.6)	76

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 sexual 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 occupation, majority were students followed by security personnel and then housewives. But in other studies 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 symptom as well as disease observed in this study was warty growth in genitalia (29.2%). The next

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common 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. Similarly genital discharge¹⁸ and genital ulcer¹⁰ were the predominant symptom in other studies.

The 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} 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, 17}

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 study²⁴ 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 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.¹¹ 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 similar 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.¹⁰ Among 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 behavior. Unmarried and those married but living apart from their partners were at significant risk for acquiring STDs^{25,26} 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 Ffleischer.²⁷ The wives of those who used condoms only sometimes depending upon their partners, are vulnerable for acquisition of STI/HIV from their spouses.

Conclusion

Adolescents and young adults should be provided

Original Article

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.

Limitations

This data is institution-based, so the findings may not be reflective of the true pattern of STI in the community and thus cannot be generalized. Since no such study at the larger scale has been conducted in the general population of our society, it is highly recommended that a community based study should be carried out to find out the actual pattern and prevalence of STI in Nepalese society.

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