PROFILE OF MEN SUFFERING FROM SEXUALLY TRANSMITTED INFECTIONS IN PAKISTAN

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Background: To evolve effective prevention and efficient treatment strategies for sexually transmitted infections (STIs) in a country, comprehensive understanding of the prevalent STI and their modes of transmission is needed. The aim of this present study was to generate such data for Pakistan. **Method:** The study was conducted between June 1999 and September 1999 in four provincial capitals. In each city, data were collected from one or more teaching hospitals and a number of general practitioners. During this period, 465 men suffering from STIs were interviewed. **Results:** The mean age of study population was 31.9±8.6 years, 60% were married, 58.3% urbanites, 81.7% living with their families and 83.3% smokers. Only 10.5% were drug addicts. Out of 465 cases, 27.5% cases had gonorrhoea, 31.6% syphilis, 17.2% chancroid, 18.3% herpes, 5.2% chlamydial infections while only one case (0.2%) was HIV positive. Most men (55%) acquired the infection heterosexually, 11.6% through homosexuality, 18.4% through bisexual relations and 2 men (0.5%) reported bestiality. Among 78.1% of those contracting the infection heterosexually, the source of infection was a sex worker. None acquired infection through his wife. The knowledge about STIs was very poor. Wrong notions were prevalent. **Conclusions**. The pattern of STIs is different from developed countries. Those acquiring STIs in Pakistan were older, married and living with their families whereas in developed countries most men acquiring STIs are younger, unmarried and living alone.

Key Words: Sexually Transmitted Infections, Gonorrhoea, Syphilis, Chlamydial Infections, Pakistan.

INTRODUCTION

Sexually transmitted infections (STIs) have been recognized as a major public health problem for a number of years[1]. Sexually transmitted infections (STIs) are among the most common causes of illness in the world and have far reaching health, social and economic consequences. In addition to their sheer magnitude, STIs are a major public health problem for two additional reasons: their serious sequelae, and the fact that they facilitate transmission of HIV[2].

According to the World Health Report 1999, STIs excluding HIV accounted for 1.2% disability adjusted life years (DALYs) during 1998; 0.8% among males and 1.7% among females[3].

Because STIs and their sequelae have a widespread effect on men, women, youth and newborns, the problem of curable STIs is costly to individuals and the health care system. The World Bank has estimated that STIs collectively rank second in importance among diseases for which intervention is possible[4] and that four curable STIs, gonorrhoea, chlamydial infection, syphilis and chancroid rank among the top 25 causes of healthy days of life lost in sub-Saharan Africa. Epidemiological studies from sub-Saharan Africa, Europe and North America have suggested that there is approximately four times greater risk of becoming HIV-infected in the presence of a genital ulcer such as caused by syphilis and/or chancroid; and a significantly, increased risk in the presence of STIs such as gonorrhoea, chlamydial infection and trichomoniasis, which cause local accumulations of lymphocytes and macrophages[5].

In order to evolve effective prevention strategies as well as efficient and cost-effective means for treating sexually transmitted infections, it is important to have a better understanding of what STIs the men are most likely to encounter, what are the most common modes of transmission and where the men are most likely to get treatment for such diseases. The aim of this present study was to generate similar data for Pakistan covering the afore-said parameters.

MATERIAL AND METHODS

The study was conducted between June 1999 and September 1999. The study was conducted in Lahore, Karachi, Peshawar and Quetta, i.e., capitals of all four provinces of Pakistan. In each city, data were collected from one or

more teaching hospitals and a number of general practitioners, who were well known for treating STIs. In teaching hospitals, data were collected from Departments of Venereology and Dermatology. Thus the sample of men was not very representative in that it did not include those with no access to health care or those unaware of their infections.

The majority of the cases of syphilis were picked from departments of Dermatology, where these cases reported because of cutaneous and other manifestations of syphilis.

Every new patient, who reported to participating units (hospitals or clinics) was interviewed by a physician or specially trained social scientist. The questionnaire was translated into regional languages and pre-tested. Each case was interviewed after diagnosis had been made by the attending physician.

RESULTS

Against a target of 500 men, 465 men (93%) could be interviewed. It was presumed that Departments of Venereology would be an appropriate place to contact men with STIs. However, it was observed that hardly any men having gonorrhoea reported to Departments of Venereology. When this issue was discussed with different Venerologists, they informed that since gonorrhoea manifests as an acute and painful condition, the affected person tends to consult the first available general practitioner for immediate treatment. The disease gets cured quickly and, as such most of the patients do not end up in a hospital.

Out of 465 cases, 148 were from Lahore, 138 from Karachi, 98 from NWFP and 86 from Balochistan. Majority of the cases (61.7%) were from hospitals, only 38.3% cases were interviewed in the clinics. Most cases of gonorrhoea were picked up from the clinics, while a majority of men interviewed in hospitals had various manifestations of syphilis, chlamydia and herpes.

Age and marital status of the study population

The age of study population ranged from 19 to 60 years. More than two third of the cases (76.7%) were between 20 and 39 years and only 6.7% cases were below 20 years of age. Two hundred and seventy nine men (60%) were married while 186 men (40%) were unmarried.

Social Characteristics

Table-1 summarises the sociologic characteristics of the men with STIs. Majority of them were employed (36.6%), urbanites (58.3%) and living with their families (81.7%); only 10% were living alone. Majority (83.3%) were smokers while only 10.5% were drug addicts.

Types of Sexually Transmitted Infections

Out of 465 cases, 27.5% cases had gonorrhoea, 31.6% had syphilis, 17.2% chancroid, 18.3% herpes, 5.2% various forms of chlamydial infections while only one case (0.2%) was HIV positive. He was working in Saudi Arabia and reported having acquired the infection there (Table-2)

There was not much variation in the pattern of STIs in four cities (Table-3). The only significant finding was a higher percent (37.6%) of gonorrhoea in Peshawar as compared to Lahore and Karachi ($p<0.01$).

Table-1. Social characteristics of the study population (n=465)

Characteristics	Number	Percentage
Occupation		

Service	170	36.6
Business	131	28.3
Labourer	62	13.4
Unemployed	38	8.3
Professional	8	1.7
Others	38	8.3
Residence		
Urban	271	58.3
Rural	194	41.7
Residing with		
Family	380	81.7
Friends	15	3.3
Relatives	23	5.0
Alone	47	10.0
Smoking Habits		
Smoker	387	83.3
Non-Smoker	78	16.7
Addiction		
Addicted	49	10.5
Not Addicted	416	89.5

Table-2 : Types of Sexually Transmitted Infections (n=465)

Disease	Number	Percentage
Syphilis	147	31.6
Gonorrhoea	128	27.5
Herpes	85	18.3
Chancroid	80	17.3
Chlamydia	24	5.2
HIV	1	0.2

Duration and source of Infection

Only 11.7% men had symptoms for less than 1 month, 48.3% for 1 to 3 months, 38.3% for 3 to 12 months and 13.3% for more than one year.

Sixty-seven men (14.5%) refused to reveal the source of infection. More than half of the men (55%) had acquired the infection through sex with women, 11.6% through sex with men, 18.4% through sex with men and/or women and only 2 men (0.5%) reported practicing bestiality (Fig-1). Among 78.1% of those, who contracted the infection heterosexually, the source of infection was a sex worker and women other than sex worker in 21.9% cases. No one mentioned that he got infection from his wife.

Knowledge and perceptions about STIs.

Whereas 28.3% men were aware that their infection can cause a similar infection in their sexual partners, 3.3% knew that this infection can lead to debilitating complications and only 1.7% thought that STIs can lead to infertility (Table-4).

Table-3. Distribution of STIs according to area (n=465)

City	No. of Cases	Syphilis %	Gonorrhoea %	Chancroid %	Herpes %	Chalamydia %	HIV+ %
Lahore	148	31.1	23.6	18.3	19.6	7.4	-
Karachi	138	31.9	22.5	18.8	20.3	6.5	-
Peshawar	93	31.2	37.6	18.9	15.1	2.1	1.1
Quetta	86	32.6	31.4	17.4	16.3	2.3	-
Total	**465**	**31.6**	**27.5**	**17.2**	**18.3**	**5.2**	**0.2**

Table-4: Knowledge about STIs (Percent responses)

State of knowledge	Yes	No	Don't know
Do you think that your disease can cause:			
· Same disease in your partner	28.3	53.3	18.4
· Disease in your children	6.7	70.0	23.3
· Some chronic ailment in your body	3.3	70.0	26.7
· Infertility	1.7	63.3	35.0

Whereas 55% men said that they did not know the cause of this infection, 43.3% knew that they had acquired this infection through sexual contact. Only 1.7% attributed their condition to God's will (Table-5).

Nearly all men (93.3%) knew that the infection could be prevented. However, only 16.7% were aware that the prevention lies in practicing safe sex. Majority of them (65%) thought that the disease could be prevented through some vaccination (Table-5).

Table-5: Perceptions about STIs

Perception	Number	Percentage
Source of infection		
Sexual contact	201	43.3

God's will	8	1.7
Do not know	256	55.0
Prevention of STIs		
Prevention possible	434	93.3
Do not know	31	6.7
Preventive measures		
Safe sex	78	16.7
Vaccination	302	65.0
Do not know	85	18.3
Total	**465**	**100**

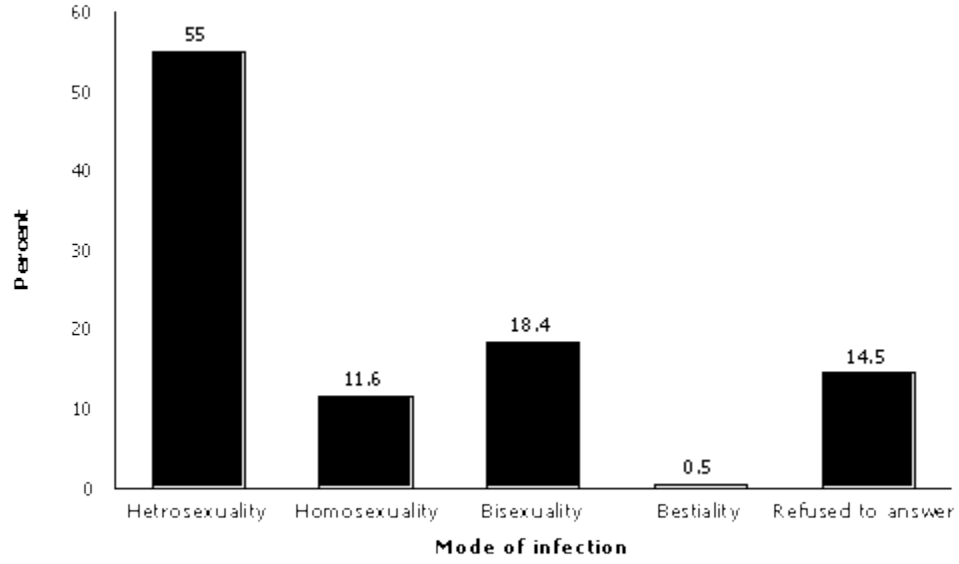
Source of treatment

Three hundred and seventeen persons (68.2%) had sought some treatment for their ailment before the interview. Out of them 33.4% had gone to the hospital, 55.3% to a private health care provider practicing modern medicine, 8.6% to traditional healers and 2.7% to Homeopaths (Table-6).

Table-6. Sources of treatment

Source	Number	Percentage
Hospitals	155	33.4
General Practitioners	257	55.3
Traditional Healers	40	8.6
Homeopaths/Sanyasi	13	2.7
Total	**317**	**100**

Figure-1: Mode of infection



DISCUSSION

During the 1990s, there have been considerable advances in the knowledge of STIs. These have been fuelled to a large extent not only by HIV/AIDS epidemic, but also by increased recognition of the range and severity of complications as well as the sequelae that can be linked to these infections. More than 30 bacterial, viral and parasitic diseases have now been identified that can be transmitted sexually[6].

Data from epidemiological surveys show that within countries and between countries in the same region, the prevalence of STIs may vary widely even in similar population groups. These differences reflect a variety of social, cultural, and economic factors, and access to appropriate treatment[7,8].

Epidemiologically sound data on the prevalence of STIs among Pakistani men are not available. However, according to World Bank's Report No: 16695 PAK, the total Burden of Disease (BOD) in early 1990s was about 350 DALYs per 1000 population per year. Sexually transmitted infections formed 2.2% of DALYs[9]. The contribution of individual STIs is: gonorrhoea 0.36%, Syphilis 0.50%, Chlamydia 0.68%, HIV 0.06% and PID 0.58%.

Two recent studies[10,11] also provide some information about STIs in Pakistan. Ghouri *et al*[10] studied the pattern of STD syndromes among 2013 men in the province of Sindh while Shah and Nasir[11] screened 60,716 blood donors for syphilis at a tertiary care hospital of Lahore.

The design of the present study precludes the estimation of prevalence. It can only provide a pattern of STIs and characteristics of the patients suffering from these STIs. Worldwide, the prevalence of STIs tends to be higher among urban residents, unmarried individuals, and young adults[2]. A different pattern has been observed in our study, where 60% of those with STIs were married. Though the difference was statistically significant ($p<0.05$), yet much importance can not be attached to this fact because the population was highly selective.

The pattern of STIs seen in the present study, corroborates with studies from India[12,13] and the findings of Ghouri *et al* [10]. The mean age of our study population (31.9±8.6 years) is higher as compared to studies from other countries but corresponds closely with the findings of Ghouri *et al*[10]. The frequency of syphilis (31.7%) and chancroid (17.4%) seems to be higher than that reported by Ghouri *et al*, who found that 21.9% persons were suffering from primary chancer/chancroid. Gonorrhoea was seen in 27.5% men in our study. This may be an under representation of gonorrhoea. Around 10% of cases of gonorrhoea in men are usually asymptomatic[2]. They never report to any health care provider.

Chlamydial infection is another common STI in males, which like gonorrhoea has higher rates of asymptomatic infection and serious sequelae[2]. In the present study only 5.2% of men had chlamydial infection. This may be due to lack of sophisticated diagnostic facilities.

In the present study 31.7% men were suffering from syphilis whereas Shah and Nasir[11] found that only 0.07% of 60,716 blood donors were sero-positive for syphilis. The genital ulcers produced by chancroid are a major risk factor for HIV transmission. The incidence of chancroid varies greatly between countries and regions. For example in Swaziland and Kenya 44% and 62% respectively of genital ulcers were diagnosed as chancroid in STD clinics[2]. In western Algeria chancroid is the most common STI observed and the primary cause of genital ulcer disease[2]. In our study 17.2% of men were found to be suffering from chancroid much lower than the 29.1% quoted by Ghouri et al[10]. In India, chancroid represented 26% of all reported STIs[2].

An interesting observation was the smoking pattern of the study population. Majority of men having an STI (83.3%) were smokers. This is a much higher proportion as compared to 43.1% of men aged 19 to 60 years (age of study population), who were reported to be smokers in National Health Survey of Pakistan[14]. Statistically the difference was highly significant ($p<0.001$).

Smoking is a risk behaviour. Smokers are known to be more sexually active, with an earlier age at first intercourse and more lifetime sexual partners. The association between smoking and a behaviour that increases the risk for HIV and other STIs, was observed in numerous studies [16-18].

Unfortunately, the level of knowledge regarding the complications of STIs was very poor. Only 28.3% of the study population knew that they could transmit the disease to their partners and 1.7% knew that their ailment could lead to infertility.

Every study subject was asked if he had received any treatment before this interview. Majority (88.7%) of them had sought medical treatment either from a hospital or a general practitioner. Only few people (8.6%) went to traditional healers. This pattern of health care utilisation is similar to the findings of National Health Survey of Pakistan[14], which showed that in case of sickness, 80.8% people prefer the use of modern medicine. During the data collection phase, a lot of time was spent with traditional healers and so-called Sex Specialists to contact persons suffering from STIs. It was observed that 95% of the men visiting this category of health-care providers came for treatment of psycho-sexual problems rather than sexually transmitted infections.

The pattern of STIs seems to be slightly different as compared to developed countries. Those acquiring STIs in Pakistan seem to be older, married and living with their families.

Based on the findings of the study, it is proposed that a programme of culturally appropriate health education should be introduced specifically targeting the married men. Information, Education and Communication (IEC) material should be prepared and widely distributed to target population.

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