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Record based analysis of pattern and trend of STIs in tertiary care hospital, Jamnagar (Gujarat)

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Abstract

Background: Sexually transmitted infections (STIs) constitute one of the major public health problems in India. A proper knowledge of the pattern of STDs and its epidemiological trend is necessary for evolving proper prevention and control measures.

Aims and Objectives: To identify the pattern and trend of common STIs in patients attending the STI

Material & Methods: A retrospective analysis of the recorded data of each syndrome obtained from STI clinic, Jamnagar from April 2010 to March 2015 was carried out. Statistical analysis was done by proportion. Trends have been determined using simple regression analysis.

Result: Out of total 5432 syndromes, majority (39.56%) were VCD followed by LAP (35.55%) and other STIs (13.35%) during study period. The proportion of other syndromes was less. There was rising trend of vaginal cervical discharge, Lower abdominal pain and other STIs while GUD non herpetic, Urethral discharge and others showed declining trend or stable trend.

Conclusion: Higher proportion of VCD and LAP indicates significant reproductive morbidity and poor quality of service. Rising trend of viral STIs like GUD herpetic, genital warts etc. since last few years has quite alarming signal.

Keywords: Sexually transmitted infections (STIs), Syndromes, Trend, STI clinic

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. Most of the STIs are prevalent in India and constitute one of the major public health problems. The disease prevalence is estimated to be 6% in India.[1] The emergence of HIV as a global pandemic has focused greater attention on the control of these diseases as they play an important role in the acquisition and transmission of HIV. However, the availability of baseline information on the epidemiology of STIs and other associated risk behaviors remains essential for the designing, implementing, and monitoring successful targeted interventions.[2] Hence, a proper knowledge of the pattern of STDs and its epidemiological trend is necessary for evolving proper control measures. The World Health Organization (WHO) has

placed emphasis on syndromic approach for case measurement and management, particularly in high-prevalence areas having inadequate laboratory facilities, trained staff, and transport facilities.[3] Though the syndromically diagnosed STI has many limitations, continuous analysis of risk assessment and prevalence-based screening studies are necessary to evaluate and monitor the performance of syndromic management.[4] This study is designed to document the pattern of common STI syndromes in patients attending the STI clinic of a tertiary care hospital, Jamnagar and to identify any change in the trend of STDs.

Materials and methods

A retrospective study of the recorded data obtained from STI clinic in G G Hospital, Jamnagar from April 2010 to March 2015 was carried out. Data regarding each syndrome were obtained for each financial year separately i.e. data for the year 2010-11 means data from 01st April, 2010 to 31st March, 2011. The proportion of each syndrome was also calculated for each year. All the relevant data collected and analyzed using Microsoft Excel. Statistical analysis was done by proportion. Trends have been determined using simple regression analysis. P value less than 0.05 considered as statistically significant at 95% confidence level.

Results

Total 5432 syndromes registered during study period. Year wise distribution of common STI syndromes reported in STI clinic, Jamnagar during study period was depicted in Table 1. It was observed that proportion wise majority of syndrome contributed by Lower Abdominal Pain (LAP) during initial period of study (2010-11 and 2011-12) followed by VCD. This scenario has been reversed during later part of study (Last 03 years of study period). Proportion wise trend of Genital Ulcer Disease (GUD) herpetic (2.31% to2.41%) and LAP (32% to 34%) was consistent since last 03 years. The trend of various common STI syndromes was depicted in Table 2.

Table 1: Frequency distribution of various Pattern of STI syndrome.

Sr. No.	Syndrome	April2010-march2011		April2011-march2012		April2012-March 2013		April2013-March 2014		April2014-March 2015		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	Vaginal/ Cervical Discharge (VCD)	247	26.03	243	38.63	467	48.24	543	40.49	649	42.01	2149	39.56
2	Genital Ulcer (GUD)-non herpetic	47	4.95	30	4.77	26	2.69	32	2.39	6	0.39	141	2.60
3	Genital ulcer(GUD)– herpetic	46	4.85	45	7.15	23	2.38	31	2.31	38	2.46	183	3.37
4	Lower abdominal pain (LAP)	358	37.72	260	41.34	310	32.02	466	34.75	537	34.76	1931	35.55
5	Urethral discharge (UD)	25	2.63	13	2.07	42	4.34	4	0.30	7	0.45	91	1.68
6	Ano-rectal discharge (ARD)	4	0.42	0	0.00	1	0.10	0	0.00	0	0.00	5	0.09
7	Inguinal Bubo (IB)	8	0.84	0	0.00	8	0.83	1	0.07	2	0.13	19	0.35
8	Painful scrotal swelling (SS)	10	1.05	1	0.16	0	0.00	0	0.00	1	0.06	12	0.22
9	Genital warts	83	8.75	5	0.79	3	0.31	34	2.54	51	3.30	176	3.24
10	Other STIs	121	12.75	32	5.09	88	9.09	230	17.15	254	16.44	725	13.35
	Total	949	100	629	100	968	100	1341	100	1545	100	5432	100

Out of total 6288 persons first time attended STI clinic during study period, 5215(82.94%) were referred to ICTC and 4742 (75.41%) were tested for RPR (Rapid Plasma Reagin) testing. The RPR reactivity was observed in 36 (O.76%) out of 4742 tested for RPR. While HIV reactivity was observed in 24 (0.38%) out of total first time visited persons to STI clinic (6288) during study period. Total 34492 (78.86%) of registered ANC (Antenatal mother) were tested for RPR and RPR reactivity among them was observed as 0.08%.

Discussion

It was observed from the present study that out of total 5432 syndromes, majority (39.56%) were VCD followed by LAP (35.55%) during study period. Such high prevalence of VCD syndrome suggest significant reproductive morbidity among females and also favors for capacity building of STI service providers in conducting detailed physical examination including speculum examination then only one can understand what proportion of these women had cervical infection (which signifies infection with gonococci and Chlamydia). Out of total reported syndromes, 35.55% were LAP which is a complication of untreated or partially treated cervical infection. This large proportion of LAP suggest poor quality of service which reflecting the diagnosis made on history without internal examination. It also signifies missed opportunity in providing early diagnosis and treatment, poor health care seeking behavior on the part of the patient and skills of providers in over diagnosing LAP syndrome.

The other studies showing variation in the proportion of syndromes compared to present study. The reasons for these variable results probably lie in the study design, study site, data sources, and computational method. A study by Ganju SA, Sharma NL in Himachal Pradesh observed 23.8% were genital discharge and 18% were LAP during study period from April 2008 to march 2010.[5] Choudhry S et al in Delhi from April 2007 to December 2008 observed Genital Discharge Syndrome in 39% of patients which was consistent to our finding.[6] Increase in the number of patients with genital discharge may be due to younger age of sexual contact, poor genital hygiene, increased use of contraceptives, usage of local antiseptics, increase in prevalence of diabetes mellitus etc.

More genital ulcers enhance acquisition and transmission risk of HIV, hence control and prevention of genital ulcers is an important prevention activity. Lower level of genital ulcer was observed in the present study suggest the lower risk of HIV transmission. It was also observed from the present study that there were more GUD herpetic cases (183) as compared to GUD non herpetic (141) which signals preponderance of viral ulcers and one need to look into the HIV prevalence in the region. Low level of GUD non herpetic may be due to widespread implementation of syndromic case management of STI/RTIs. Similarly Ganju SA, Sharma NL in Himachal Pradesh observed only 1% GUD herpetic during study period from April 2008 to march 2010.[5] In contrast to present study finding, study by Devi S A et al from June 2004 to June 2006 in Puducherry, Jain V K et al from January 2001 to December 2006 at Rohtak Medical College and Nirmala Saini, Ashok Meherda, Rajkumar Kothiwala in Ajmer founded herpes genitalis was the most common, constituting approx. 30% to 32% of the all cases.[7,8,9] This may be due to high prevalence of HIV in study population as compared to present study. High proportion of genital warts (17.6%) was also observed by Devi S A et al in Puducherry which was contrary to present study finding.[7]

Table 2: Trend of various STI syndromes.

Sr No.	Syndrome	April2010-March 2011 (n)	April2011-March 2012 (n)	April2012-March 2013 (n)	April2013-March 2014 (n)	April2014-March 2015 (n)	r	R2	t	p value	X variable coefficient	Remarks
1	**Vaginal/ Cervical Discharge (VCD)**	247	243	467	543	649	0.97	0.94	6.49	0.007	110.4	Rising trend
2	**Genital Ulcer (GUD)-non herpetic**	47	30	26	32	6	0.86	0.74	-2.9	0.06	-8	Declining trend except in 2013-14
3	**Genital ulcer(GUD) – herpetic**	46	45	23	31	38	0.49	0.24	-0.97	0.4	-3	Initially decreasing trend for first 03 years followed by increasing trend since 2013-14
4	**Lower abdominal pain(LAP)**	358	260	310	466	537	0.78	0.62	2.19	0.12	56.4	Rising since 2011-12
5	**Urethral discharge (UD)**	25	13	42	4	7	0.46	0.21	-0.89	0.44	-4.5	Initially fluctuating then decreasing since last 02 years
6	**Ano-rectal discharge (ARD)**	4	0	1	0	0	0.73	0.53	-1.85	0.16	-0.8	Decreased
7	**Inguinal Bubo (IB)**	8	0	8	1	2	0.45	0.2	-0.86	0.45	-1.1	Declining trend
8	**Painful scrotal swelling (SS)**	10	1	0	0	1	0.7	0.49	-1.71	0.19	-1.9	Stable since 2010-11
9	**Genital warts**	83	5	3	34	51	0.16	0.03	-0.3	0.79	-3.5	Rising since 02 years
10	**Other STIs**	121	32	88	230	254	0.78	0.6	2.13	0.12	46.4	Upward since 2010-11
	Total	949	629	968	1341	1545	0.84	0.7	2.65	0.08	190.4	Upward since 2010-11

Ganju SA, Sharma NL in Himachal Pradesh also observed that the proportion of IB, ARD, UD and painful SS was very less (0.1%, 0.06%, 1.7% and 1.1% respectively) among index patients which was consistent with the present study finding.[5] Low levels of ARD reporting may also suggest poor skills of providers in conducting proctoscopic examination, unwillingness of attendees for proctoscopic examination, lack of equipment and/or facilities to conduct examination and poor counseling of patients. Lower number of UD syndrome suggests low prevalence of short incubating STI like gonococci and Chlamydia, high condom usages and lower amount of pool of infectious source (especially core group). It was observed in the present study that other STIs comprise 13.35% of all syndromes which was lower than study by Ganju SA, Sharma NL in Himachal Pradesh who observed higher proportion of Other STIs (25.6%).[5] This necessitates for regular prescription audit by supervisory teams.

It was observed from the present study that increasing number of persons with STI syndromes attending STI clinic during study period (from April 2010 to March 2015). Similar observation was made by Arakkal GK et al in Secunderabad who showed an increasing number of patients attending the STI clinic over a period of 3 years.[10] 2,084 (26.51%) patients attended the STI clinic in the year 2011, and the number increased to 2,561 (32.58%) in 2012 and 3,214 (40.89%) in 2013.[10] This rising trend of persons with STI syndromes visiting STI clinic may be due to increasing in sexual health awareness and availability of economically sound services at STI clinic.

There was a declining trend of GUD non herpetic, UD, ARD, IB and painful SS in the present study. While the trend of genital warts, VCD, LAP and Other STIs was rising. Trend of GUD herpetic was consistent during first two years of study period followed by a fall in 2012-13 and then rising since last two years. A number of epidemiological studies have been done on the pattern and changing trends of STDs and they have variation in their findings.[7,8,9,10,11,12] Devi S A et al in Puducherry, Nirmala Saini, Ashok Meherda, Rajkumar Kothiwala in Ajmer and Arakkal GK et al in Secunderabad observed declining trend of bacterial STIs like GUD non herpetic, syphilis, UD etc. and rising trend of viral STIs like GUD herpetic, genital warts etc.[7,9,10] Murugesh SB, Sugareddy, Raghunath S in Davangere STD clinic from January 1993 to December 2002 observed that herpes Genitalia and Chanchroid were showing rising trend and Lymphogranuloma venerum (LGV) and donovanosis showing downward trend.[11] Jain V K et al also observed changing trend of STI at Rohtak.[8] They observed rising trend of herpes Genitalia and condyloma acuminate and declining trend of syphilis, chancroid and LGV.[8] Nair S P. in Trivandrum, Kerala from 1996 to 2005 founded that there was a drastic reduction by 60% in the number of gonorrhea cases in 2001-2005 which was the commonest genital discharge STI while candidiasis was the common cause of vaginitis.[12] He also observed that there was a significant increase in the number of HIV cases and late latent syphilis (LLS) cases in 2001-2005 compared to 1996-2000 while there was a significant decrease in the number of condyloma acuminata cases during same period.[12] Declining level of bacterial infections may be due to widespread use of antibiotics and syndromic management of the infections by the physicians and health care workers. Viral infections are commonly seen because of its persistent and recurrent nature.

It was observed from the present study that RPR reactivity was 0.76% and HIV reactivity was 0.51% during study period. Ganju SA, Sharma NL in Himachal Pradesh observed syphilis seropositivity was 0.74% which is similar to present study and slightly low level of HIV positivity (0.21%) among

STI/RTI clinic attendees.[5] High proportion of HIV positivity was observed by Choudhry S et al in Delhi (10.3%) from April 2007 to December 2008 and Devi S A et al from June 2004 to June 2006 in Puducherry (34.5%).[6,7] Nirmala Saini, Ashok Meherda, Rajkumar Kothiwala in Ajmer founded prevalence of HIV was 4.85% and RPR test was reactive in 2.02% patients.[9] While Jain V K et al from January 2001 to December 2006 at Rohtak Medical College showed an HIV positivity rate of 1.65%.[8] This variation in the result may be due to variation in the study site, sample composition and study design.

Although STI/RTI patients in this study comprised a sizeable proportion of cases from Jamnagar city, the findings of this study need to be carefully extrapolated and cannot be generalized to a large population. This is one of the limitations of our study. Secondly, we restricted our study to only Government hospital based patients and many STI/RTI cases of community based may have been missed. Not being a community-based study, we may not be able to calculate the exact measures of epidemiology.

Conclusion

Higher proportion of VCD and LAP indicates significant reproductive morbidity and poor quality of service which reflecting the diagnosis made on history without internal examination underscore the need for strengthening of STI service delivery. Low level of GUD non herpetic, UD, ARD, IB etc. is probably because of the widespread use of antibacterials and also the syndromic approach to treatment. Rising trend of viral STIs like GUD herpetic, genital warts etc. since last 03 years signal that they are emerging as significant STIs in the region and one need to look for HIV prevalence in the region. Rising number of syndrome suggest increasing sexual health awareness among people. Similar studies at different levels are very essential to detect the changing trends as they assist in the modification of strategy for control of STD in the community.

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Conflict of Interest: None

References:

1. National Guidelines on the Prevention, Management and control of reproductive tract infections including sexually transmitted infections. Aug 2007. p.1.
2. Risbud A. Human immunodeficiency virus (HIV) and sexually transmitted diseases (STDs). Indian J Med Res 2005; 121: 369-76.
3. UNAIDS/WHO. Sexually transmitted diseases: Policies and principles for prevention and care. Geneva: UNAIDS, UNAIDS/01.11E; 1999.
4. Dallabetta GA, Gerbase AC, Holmes KK. Problems, solutions and challenges in syndromic management of sexually transmitted diseases. Sex Transm Infect 1998;74:S1-11.
5. Ganju SA, Sharma NL. Initial assessment of scaled-up sexually transmitted infection intervention in Himachal Pradesh under National AIDS Control Program - III. Indian J Sex Transm Dis 2012;33:20-4.
6. Choudhry S, Ramachandran V G, Das S, Bhattacharya S N, Mogha NS. Pattern of sexually transmitted infections and performance of syndromic management against etiological diagnosis in patients attending the sexually transmitted infection clinic of a tertiary care hospital. Indian J Sex Transm Dis 2010;31:104-8.
7. Devi S A, Vetrichevvel T P, Pise GA, Thappa DM. Pattern of sexually transmitted infections in a tertiary care

centre at Puducherry. Indian J Dermatol 2009;54:347-9.
8. Jain V K, Dayal S, Aggarwal K, Jain S. Changing trends of sexually transmitted diseases at Rohtak. Indian J Sex Transm Dis 2008;29:23-5.
9. Nirmala Saini, Ashok Meherda, Rajkumar Kothiwala. Study of pattern and trend of sexually transmitted infections at tertiary care hospital in central Rajasthan. Indian Journal of Clinical Practice, November 2014; Vol. 25, No. 6: 581-4
10. Arakkal GK, Damarla SV, Kasetty HK, Chintagunta SR. Changing trends in sexually transmitted infection (STI) clinic attendees – Current scenario. Int J Med Sci Public Health 2014; 3:1215-1218.
11. Murugesh SB, Sugareddy, Raghunath S. Pattern of sexually transmitted diseases at Davangere. Indian J Sex Trans Dis 2004; 25:9-12.
12. Nair S P. A study of the changing trends in the pattern of sexually transmitted infections in the state of Kerala. Indian J Sex Transm Dis 2012;33:64-5.