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A Study of Behavioral Pattern of Women with Sexually and Reproductive Transmitted Infections (STIs/RTIs) in Relation to HIV/AIDS

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Abstract
Background: *Sexually transmitted diseases/Reproductive tract infections are known major public health problems worldwide. These are largely neglected until the appearance of HIV/AIDS and have far reaching health, social and economic consequences. It is essential to bring change in social behavior of people to practice safe sex and improve knowledge and understanding about various factors predisposing to STDs/RTIs and HIV/AIDS.*
Objectives: *To study the behavioral difference between HIV reactive and non reactive women with STIs/RTIs and to find out possible predisposing risky behavior for HIV/AIDS.*
Methodology: *A Cross-sectional, questionnaire-based, epidemiological study was conducted in 1927 female patients diagnosed with STDs/RTIs over a period of 2 years, in department of Obstetrics and Gynecology NSCB Medical college Hospital, Jabalpur, Madhya Pradesh.*
Results: *Total 1927 women with STIs were registered. 91 were HIV reactive. Majority belonged to middle age, rural and lower strata background and were engaged in risky medical, social and unsafe sexual practices*
Conclusion: *STIs contribute to the spread of HIV infection. Unsafe sexual practices need to be arrested by the introduction of a culture-sensitive and cognitive- behavioral interventions package.*
Keywords: *STIs, HIV, Behavioral pattern.*

Introduction

Sexually transmitted infections and Reproductive infections (STIs/RTIs) are important public health problems in India. Studies suggest that 6% of the adult population in India is infected with one or more STIs/RTIs . Women with STIs have a significantly higher chance of acquiring and transmitting HIV.HIV epidemic is declining in India yet its prevalence among STIs is gradually increasing. A strong association between transmission of HIV infections and STIs/RTIs are well established yet the differential behavioral pattern and its causative factors are not evident among HIV reactive and non reactive women[1,2]. Nor any guidelines have been established to restrain transmission of HIV infection from STIs afflicted patients.

We therefore undertook this study with an aim to study the behavioral difference between HIV reactive and non reactive women with STIs/RTIs coming to the Gynecological unit.

Material and Method

Present cross-sectional study was carried out in the department of Obstetrics & Gynecology from April 2011 to March 2013 at NSCB Medical College Hospital Jabalpur MP. Women diagnosed with STIs/RTIs formed the study group. After approval from institutional ethical committee and informed consent women were enrolled. Assessment was done with the help of a structured questionnaire (in depth interview) which covered demographic factors, reproductive history and behavior, past history of STIs/RTIs, sexual risky behavior, condom use, practice of unnatural sex and awareness. Biological assessment and medical history was recorded as per scheduled. Blood sample and vaginal swab was collected.HIV, Rapid Plasma regain(RPR) and Wet Mount test was done as per norms.

Statistical Analysis

Data compiled and assessed by using chi square test

Results

Out of 1927 women 91 were HIV reactive and 1836 were non reactive. Higher percentage of women is from middle age group, rural background, illiterate and lower strata. Majority of the women were staying with spouse and family in both the groups.5 reactive and 3 non reactive were living alone. Table 3 shows 83 reactive and 1341 non reactive were hospitalized in the past.46 reactive and 896 non reactive had previous surgery. 32 reactive and 969 non reactive women had multiple partners. 76 reactive, 869 nonreactive women's spouse were promiscuous.. Both social factors, women and spouse multi-partner relationship were found statistically significant ($p<.05$). 35 reactive and 472 nonreactive women practiced unnatural method of sex which was statistically significant ($p<.05$). During interrogation about habits of alcohol consumption, smoking/tobacco chewing, injectable drug use, non of women reported using injectable drugs or consuming alcohol. 14 reactive, 483 non reactive women got tattoed ($p<.05$). Table 4 shows during heterosexual relations partners of 85.7% reactive and 91.3% non reactive females never used condom. During anal/oral sex 38.5% reactive and 23.7% non reactive group never used condoms. This shows consistent use of condom was not in practice. Table 5 shows 43 reactive and 983 non reactive women had undergone sterilization in contrast to one percent of their life-partner .Condom use was low in both the groups. No reactive female was adopted the method of intra-uterine device (IUD) or pills. They were not aware of abstinence or withdrawal method. Genital discharge was highly reported in both the groups. Burning maturation mostly seen in reactive group while genital itching in non reactive. Foul odor and abdominal pain in both groups (table 6) Table 7 shows, out of 1927 women examined, highest number of reactive women were of Trichomoniasis (27), PID (19), bacterial vaginosis (17) and candidiasis(12) respectively. The traditional STDs/RTIs (syphilis, Chancroid) were clinically diagnosed in 4 patients(2 in each group). Viral diseases like herpes simplex, molluscum contagiosum and warts were diagnosed clinically.

Table -8 shows 73 reactive and 87 non reactive women were seeking allopathic treatment privately. 652 non reactive adopted home remedial measures to cure themselves .The reactive group were more involved in taking treatment compared to non reactive group, which was statistically significant ($p<0.05$).

Table No.1: Demographic profile

Demographic Variable	No. of patients	%
Age group		
15-24	224	11.6%
25-34	1660	86%
35-49	43	2.2%
Locality		
Rural	1678	87%
Urban	249	12.9%
Literacy		
Illiterate	1709	88.6%
Literate	218	11.3%
SES		
Upper	112	5.8%
Middle	525	27%
Lower	1290	66.9%
Marital Status		
Married	1848	
Unmarried	49	

Table No. 2: Current living status

Living status	Reactive(n=91)	Non Reactive(n=1836)
Alone	**5(5.49%)**	**3(0.1%)**
Spouse	**37(40.6%)**	**1331(72.4%)**
Spouse & Family	**35((38.46%)**	**497(27%)**
Others	4(4.39%)	5(0.27%)

Table No 3 : Behavioral factors (medical/social)

Behavioral Factors	Reactive(n=91)	Non Reactive(n=1836)	p value
Blood Transfusion	4(4.4%)	18(1%)	p<0.05
Hospitalization	83(91.2%)	1341(73%)	p<0.05
Surgery	46(50.5%)	896(48.8%)	p>0.05
Injections	9(9.9%)	112(6.1%)	p>0.05
Multiple partners	32(35.1%)	969(52.7%)	p<0.05
Spouse-multipartner relations	76(83.5%)	869(47.33%)	p<0.05
Unnatural method	35(38.46%)	472(25.7%)	p<0.05
Injectable drugs	-	-	-
Smoking/tobacco	5(5.49%)	146(7.95%)	p>0.05
Tattooing	14(15.38%)	483(26.3%)	p<0.05
Alcohol	-	-	-

Table no.4: Information regarding use of condom by partners during natural and unnatural sexual relations

Type of sexual relation	Never %		Sometimes %		Ever %	
	Reactive	Nonreactive	Reactive	Nonreactive	Reactive	Nonreactive
Heterosexual	85.7	91.3	9.8	6.0	0	0.2
Anal/Oral sex	38.5	23.7	2.2	1.6	1.1	0.6

Table No. 5: Type of Contraceptive used by Women and his partner

Contraception	Reactive	Non Reactive	p value
Condom	20	138	p<0.05
IUD	0	103	p<0.05
Pills	0	5	p>0.05
Tubectomy	43	983	p>0.05
Vasectomy	1	26	p<0.05
Abstinence	-	-	-
Withdrawal	-	-	-
Others*	27	581*	p>0.05

***Not responded**

Table No. 6: Genital symptoms by the patients

Symptoms (last 3 months)	Reactive(91) (%)	Non Reactive(1836) (%)
Genital discharge	85.6	97.9
Urinary frequency	12.1	2.8
Burning maturation	75.8	7.9
Genital ulcers	8.8	7.8
Genital itching	46.1	76.3
Abdominal pain	72.5	83.6
Foul odor	37.4	41.1

Table No. 7: Clinical diagnosis

Clinical Diagnosis	Reactive(n=91)	Non Reactive(1836)
Non specific discharge	2	245
PID	19	483
Trichomoniasis	27	790
Vaginal Candidiasis	12	201
Bacterial Vaginosis	17	72
Syphilis	2	2
Chanchroid	0	0
Genital warts	2	20
Herpes simplex	2	7
Molluscum contagiosum	1	3
Oral Candidiasis	0	0
Scabies	5	0
Skin rash	2	0

Table no. 8: Treatment sought prior to hospital visit-

Type of ongoing treatment	**Reactive**	**Non reactive**	**p value**
Allopathic	73	87	p<0.05
Home Remedies	13	652	p<0.05
Herbal/Homeopathic	02	243	p<0.05
Did any thing	00	14	p>0.05

Discussion

STIs/RTIs increase risk of HIV infection manifolds. HIV can influence the prevalence and/or manifestations of other STDs and vice versa. There is compelling evidence for the effects of STD's on the transmission of HIV[3,4,5]. In our study out of 1927 women 91 were HIV reactive. This shows sexual transmission of HIV is enhanced by the presence of another STI/RTI.

Our study had higher percentage (86%) of women from middle age (25-34). Majority of women (87%) were from rural area. (86.6%) were illiterate and majority. (66.9%) belonged to low socioeconomic status. Several studies stated that associated factors such as poor education, poor socioeconomic status and rural community[6]. Gender violence and no social permission to discuss sexual issues with the partners pushed them to HIV reactive status without their involvement in risky behaviour[7].

Regarding risky medical factors, our study found that blood transfusion and hospitalization increases the risk of HIV transmission. Several studies revealed the same transfusion risk but now a days meticulous screening of blood as per norms reduces the transmission to the minimal. Transmission of HIV virus depends upon individuals high risk behaviour. STDs/STIs facilitate manifold faster transmission of HIV virus from infected person to normal persons. Multiple sexual partners of the women and their spouses risky social behavior is an important factor, which predispose to HIV/AIDS. In our study 32/91 reactive and 969/1836 nonreactive women were cohabitating with multiple partners. Brehmi et al[8], found that HIV infection is independently associated in our country with multiple lifetime partners, receptive anal intercourse. Many studies have mentioned globally multiple heterosexual partners.[9 10,11,12].

Our study found that unnatural method of sex and tattooing are the significant factors triggering HIV transmission faster compared to other social factors. In our study information regarding use of condom by partners during natural and unnatural sexual relations was poor. Only 1.1% women partner used condom during oral/anal interc-ourse in reactive group and in nonreactive group it was 6%. During heterosexual relation, partners of 85.7% reactive and 91.3% nonreactive patients never used condom, suggesting unsafe sex behavioural practices, which demands an emergent need to strengthen condom use programmes. Study by Hawkes et al,[9] and Linda morison british bullet in 82, is similar with our study. Interventions to change sexual behaviour, mainly partner reduction and to promote condom use are therefore vital component of any HIV control programme .[13,14]. Consistent and correct use of condom significantly reduces the risk of HIV, other STI and unplanned conception. In our study we found contraceptive use not in much practice irrespective of the HIV status. Majority of women had undergone sterilization. No females from reactive group adopted intra-uterine devices or pills. They also lacked of knowledge of abstinence or withdrawal method. We found no study in this regard

In our study genital discharge as commonest symptom was highly reported by reactive and non reactive women. However the symptom of burning micturation was commonly seen in HIV reactive group. Genital itching was mostly seen in non reactive group. Foul odour and abdominal pain seen equally in both groups. Trichomoniasis, PID, Bacterial vaginosis and vaginal candidiasis were common in both the groups.Several studies have shown the similar results.[16,17,18,19,20,21,22,23,24,25] and suggests that STIs/RTIs are responsible in transmitting HIV infections. Majority of HIV reactive (73) women sought allopathic treatment privately prior to our hospital visit . None of them knew their HIV status prior to visit.

Limitation of the study

Since the study was hospital based study chiefly focusing on sexual practices and behavior by in-depth interview, there will always be a reliability and validity issue due to concealment of facts. Rural background, low education and social stigma has critical role in under reporting and understanding the importance of such studies.

Conclusion

The entire study group practiced unsafe sexual practices performing all types of sex without use of condoms. Almost entire Group was ignorant and low educated indulged in adverse social and biological behavior without knowing its consequ-ences. There was lack of sharing information regarding safer sex practices among the partners. Since majority women contracted HIV from infected partners unknowingly and unfortunately , it is essential to bring change in social behavior of people to practice safe sex and improve knowle-dge and understanding about various factors predisposing to STDs/RTIs and HIV/AIDS**.**

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