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PATTERNS OF SEXUALLY TRANSMITTED INFECTIONS IN PREGNANT WOMEN AND THEIR PARTNERS: A CLINICO-EPIDEMIOLOGICAL STUDY AT A TERTIARY CARE CENTER IN NORTH INDIA

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Introduction:
The term "sexually transmitted infections" (STIs) refers to a broad category of illnesses and syndromes that are varied in terms of epidemiology but frequently spread through sexual contact.[1] STIs are illnesses that have serious negative effects on one's physical and mental health especially in vulnerable population like pregnant females. Studying the prevalence of STIs is crucial for implementing the control measures. Despite the fact that STIs are less common during pregnancy, it is still important to identify them early and treat them to stop parent-to-child transmission.[1,2]
Various viral, bacterial and treponemal infections such as HIV, HPV, syphilis, gonorrhea, trichomoniasis, Chlamydia and herpes simplex have been reported to occur in pregnant females which may have an impact on the fetus. The prevalence of these infections in pregnant women, however, has not been reported widely in literature.[3]
Therefore, we aimed to conduct a study to know the demographic profile, pattern of sexually transmitted infections , sexual behavior and awareness in pregnant women and their partner.

Materials and methods:
This was an observational, cross-sectional study conducted over a period of 1year at our tertiary care center. 50 pregnant females and their married partners were included in the study.

Inclusion criteria included all pregnant women (age >18 years) with STIs and their partners who were willing to participate in the study. STIs like anogenital warts, herpetic ulcers etc were clinically diagnosed.
Pregnant women with clinical symptoms and signs suggestive of STI were investigated for the same. Serology for HIV, venereal disease research laboratory test (VDRL), treponema pallidum hemagglutination test (TPHA), HSV1 & 2 antibodies etc. was done in all the pregnant women. The partners of pregnant women with STIs were examined and investigated for the same. History

about sexual behavior, knowledge of STI, and preventive measures were obtained from both pregnant woman and her partner. A self devised questionnaire was used to assess sexual behaviour and awareness regarding STIs.

Results:

Forty eight (96%) females were married, 1 was separated and 1 was divorced. Therefore, 48 spouses were assessed for 50 pregnant females. The mean age of the pregnant females was 25.14 ± 4.2 years and the mean age of their partners was 28.7 years ± 4.6. The age of pregnant females ranged from 18 to 35 years. Similarly, it was 23 to 39 years in the partner group. Out of 50, 34 cases (68%) were from urban background. Only 12% (6/50) of patients were illiterate. Thirty six (72%) females were housewives. Maximum number of females belonged to lower middle class socioeconomic strata. (Table 1)

Out of 7 HIV-positive pregnant women, 2 were already known cases of HIV diagnosed before the current pregnancy and 5 cases were diagnosed during the assessment of current pregnancy. Both the patients were on antiretroviral therapy (ART). Most of the HIV-positive women i.e 6 cases (85.7%) were asymptomatic. However, one case had oral candidiasis. The percentage of serodiscordant (positive – pregnant woman; negative – spouses) in HIV were 28.57% (7 positive females and 2 partners negative).

Twenty two pregnant women had positive TPHA and VDRL. Four cases had low titers of VDRL, and 18 cases had titers more than 1:8. Fourteen spouses had reactive TPHA and VDRL.

Five cases (10%) had secondary syphilis. Maculopapular syphilides were the most common presentation in both pregnant females and their partners. Viral infections were the most common group of sexually transmitted infections.(Figure 2,3) Anogenital warts were most commonly observed in both pregnant women and their spouses. (Figure 1)

Homosexual behavior was not reported by any of the cases. The history of premarital/extramarital sexual contact among pregnant women was present in 4 cases (8%). None of the participants (pregnant women and partners) gave a history of blood transfusion or intravenous drug abuse.

Discussion:

Unfavorable fetal outcomes are linked to sexually transmitted infections (STIs) during pregnancy. Therefore, STIs ought to be actively sought for and attended to. The clinic-epidemiological profile of STIs in pregnant females and their spouses varies in different regions. Our study aimed to assess the patterns and demographic characteristics of STIs in pregnant females and their partners . [4]

A study by Simon et al.[5] on sexually transmitted infections in pregnant females has reported that viral STI's were most common, accounting for 136 cases (58.37%). However syphilis was the commonest STI as a single group encountered in pregnant women with 89 cases (38.19%). Syphilis was again the commonest STI seen in the marital partner (59.02%). There were no HIV cases. The mean age was 24.06 years. Primigravida and younger females accounted for the majority of the STIs, hence the young adult population is the target group in the STI control program.

Similarly, in another study by Tanwar et al.[6], viral infections were the most common STIs, but syphilis was the most common STI caused by a single organism in pregnancy with adverse fetal outcome (86.7%) among all causes of adverse fetal outcome.

In a study by Gund et al. [7], the most common STI among pregnant women was found to be HIV and all HIV-positive women were asymptomatic. In a study by Giri *et al*.[8] a significantly decreased prevalence rate of HIV in pregnant women was reported. In our study, 7 cases (14%) had HIV which was significantly higher.

The key factors for zero parent to child transmission is early identification of infection and initiation of ART by mothers during pregnancy which results in low viral load. Thus, understanding the prevalence and transmission of HIV in pregnant females is important to start early treatment in pregnant females and newborns. [9]

None of the participants admitted homosexual orientation and oral and anal sex in a study by Gund et al.[7] This was similar to our study in which homosexual behavior was not reported by any of the cases. However, the history of premarital/extramarital sexual contact among pregnant women was present in 4 cases (8%) in our study.

All pregnant females in a study by Gund et al.[7] who had latent syphilis were positive for both VDRL and TPHA. However, in our study, 5 cases among pregnant females and 2 cases among partners were of secondary syphilis with cutaneous manifestations. Rest of the cases were of latent syphilis. None of the cases gave any history of syphilis or treatment taken for the same. The reason for latent syphilis could be an unnoticed primary infection.

Overall, there was less knowledge and awareness regarding STIs in the pregnant population as compared to spouses. Although the majority of study participants were aware of HIV/AIDS, there were still lacunae in their knowledge, and only 24% had some awareness regarding other STIs.(Table 2).Similarly, in a study by Vasudeva et al.[10], the prevalence rates of STI awareness of STIs other than HIV were less than 5% among the study participants. Ninety-nine percent of the men and 91% of the women reported that they had prior knowledge of at least one of the STIs.

Hence, sex education is important to spread awareness in pregnant females for better maternal and fetal outcomes. [11,12]

The major limitations of our study were small sample size and short follow up period.

Conclusion:

Most of the pregnant females have an asymptomatic presentation of sexually transmitted infections, therefore, it is important to screen for these infections. Viral infections, especially anogenital warts followed by treponemal infections i.e syphilis were most common in our study. Early detection and initiation of treatment ensures better maternal and fetal outcomes.

References :

1. 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.
2. Aggarwal K, Jain VK, Brahma D. Trends of STDs at Rohtak. *Indian J Sex Trans Dis.* 2002;23:19–21.
3. Marfatia YS, Sharma A, Joshipura SP. Overview of sexually transmitted diseases. In: Valia RG, Valia AR, editors. *IADVL Textbook of Dermatology.* 3rd ed. Vol. 59. Mumbai: Bhalani Publishing House; 2008. pp. 1766–78.
4. Murugesh SB, Reddy S, Raghunath S. Pattern of sexually transmitted diseases at Davangere. *Indian J Sex Trans Dis.* 2004;25:9–12.
5. Sheena Ann Simon, et al. Sexually transmitted infections in pregnancy: A 20-year retrospective clinic-epidemiological study from a tertiary care hospital, Kerala, South India. *J Med Sci Clin Res.* 2020;08 [515-20] [doi: 10.18535/jmscr/v8i7.83]
6. Tanwar R, Sarda S, Agarwal S, et al. Prevalence of Sexually Transmitted Infection in Pregnancy at a Tertiary Care Center of Central India: An Observational Study. J South Asian Feder Obst Gynae 2022;14(2):128–131.
7. Gund G, Nayak C. Sexually transmitted infections in pregnant women and their partners: A clinico-epidemiological study at a tertiary care center, Mumbai, Maharashtra. Indian J Sex Transm Dis AIDS. 2023 Jul-Dec;44(2):116-120.
8. Giri PA, Bangal VB, Phalke D. Prevalence of HIV among rural pregnant women attending antenatal clinics at Pravara Rural Hospital, Loni, Maharashtra, India. *Int J Health Allied Sci.* 2012;1:13–5.
9. Kavina BK, Billimoria FE, Rao MV. The pattern of STDs and HIV seropositivity in young adult attending STD clinic of Civil Hospital Ahmedabad. *Indian J Sex Trans Dis.* 2005;26:603.

10. Vasudeva M, Nakka R, Stock S, Ghebremichael M. Associations between Awareness of Sexually Transmitted Infections (STIs) and Prevalence of STIs among Sub-Saharan African Men and Women. Trop Med Infect Dis. 2022 Jul 26;7(8):147.
11. Mullick S, Watson-Jones D, Beksinska M, Mabey D. Sexually transmitted infections in pregnancy: Prevalence, impact on pregnancy outcomes, and approach to treatment in developing countries. *Sex Transm Infect.* 2005;81:294–302.
12. Banger HS, Sethi A, Malhotra S, Malhotra SK, Kaur T. Clinico-epidemiological profile of patients attending Suraksha Clinic of tertiary care hospital of North India. Indian J Sex Transm Dis AIDS. 2017 Jan-Jun;38(1):54-59.

Table 1: Socio-demographic profile of patients

Socio-demographic factors	Pregnant females (n=50)	Spouses (n=48)
Age		
Mean	25.14 ± 4.2 years	28.7 ± 4.6 years
Range	18 to 35 years	23 to 39 years
Residence		
Urban	68%	66.67%
Rural	32%	33.34%
Marital status		
Married	96%	100%
Separated	2%	NA
Widow	2%	NA
Education		
Literate	88%	100%
Illiterate	12%	0%
Occupation		
Homemaker	72%	0%
Employed in public or private sector	28%	100%
Socioeconomic status		
Upper middle class	8%	8%
Lower middle class	52%	52%
Upper lower class	24%	24%
Lower class	16%	16%

Table 2: Awareness of sexually transmitted infections

	Pregnant female	Spouse
Aware of HIV/AIDS	92%	100%
Aware of other STIs (in terms of symptoms)	24%	42%
Modes of transmission of HIV/AIDS	88%	96%
Modes of prevention of HIV/AIDS	82%	96%

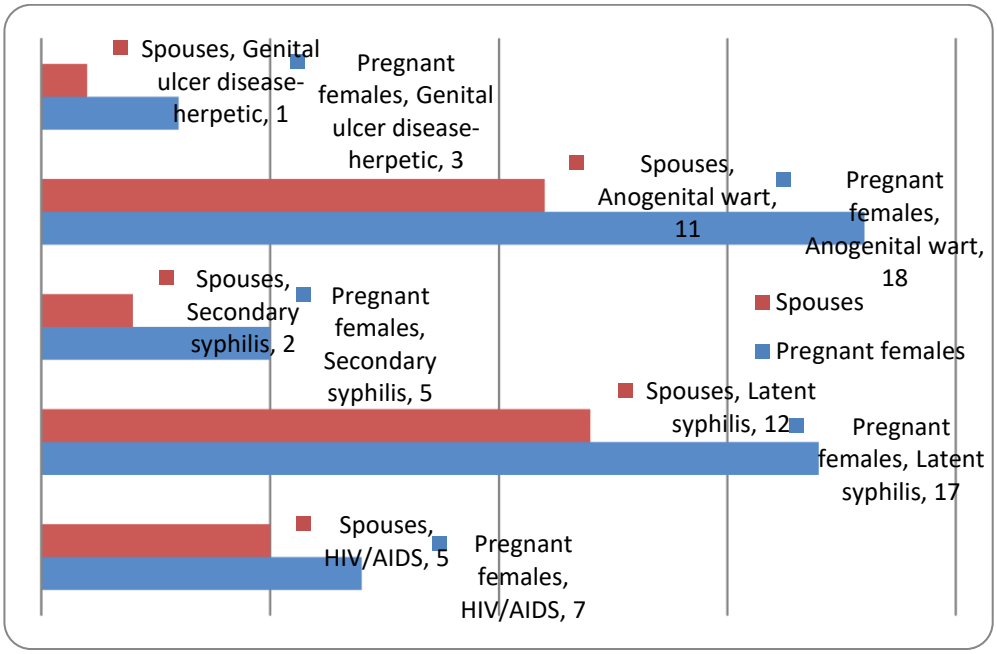

Figure1: Sexually transmitted infections in pregnant females and their spouses.

Figure 2: Extensive genital wart in a pregnant female.

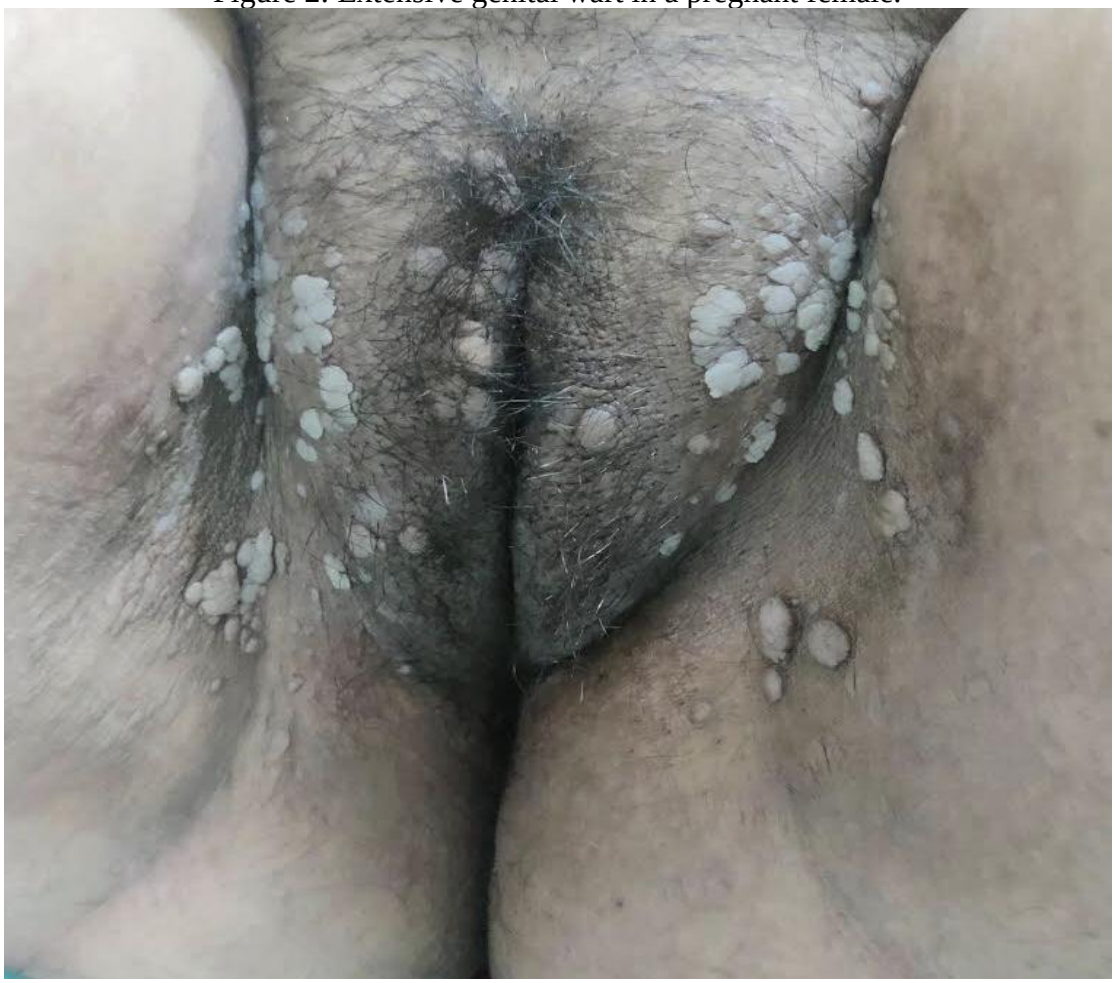

Figure 3: Penile wart in male partner of pregnant female.