

Original Article

Reproductive and sexual morbidity in Uttar Pradesh: Evidence from District Level Health Survey-III

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ABSTRACT

The main objective of this study is to find the prevalence, level of knowledge, and mode of transmission of reproductive tract infection (RTI)/sexually transmitted infection (STI) among ever-married females in Uttar Pradesh. To study the various socio-economic and demographic factors responsible for RTI/STI among married females. This study is based on data extracted from District Level Health Survey III in Uttar Pradesh for ever-married females age 15-49 years. RTI/STI prevalence in UP is 29%. Most common symptom of RTI/STI is unusual vaginal discharge. Most of the RTI/STI infected females sought treatment in the private medical sector. The main source of information about RTI/STI is relatives/friends. 60% women do not know any mode of transmission of RTI/STI among those who have heard of RTI/STI.

Introduction

Reproductive morbidity is an important public health issue as well as the social problem. Reproductive morbidity refers to the diseases that affect the reproductive system although not necessarily as a consequence of reproduction. Reproductive morbidity can be classified into three categories: obstetric morbidity, gynecological morbidity, and contraceptive morbidity. Gynecological morbidity is defined as any condition, disease, or dysfunction of the reproductive system, which is not related to pregnancy, abortion, or childbirth, but it may be

related to sexual behavior (1). Reproductive tract infections (RTIs) are infections that affect the reproductive tract which is part of the reproductive system. Sexually transmitted disease (STD) also known as sexually transmitted infection (STI) or venereal disease is an illness that has a significant probability of transmission between humans or animals using human sexual behavior including vaginal intercourse, oral sex, and anal sex (2).

RTIs refer to three different types of infections which affect reproductive tract:

1. Endogenous infections are most common RTIs worldwide. They result from an overgrowth of organisms normally present in the vagina. These infections include bacterial vaginosis and candidiasis. These infections can be easily treated and cured.

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2. Iatrogenic infections occur when the cause of infection is introduced into the reproductive tract through a medical procedure such as menstrual regulation, induced abortion, and the insertion of the intrauterine device or during childbirth.

3. STIs are caused by viruses, bacteria, or parasitic microorganisms that are transmitted through sexual activity with an infected partner. HIV, the virus that causes AIDS, is perhaps the most serious STI as it leads to death. STIs affect both men and women and can also be transmitted from mothers to children during pregnancy and childbirth.

In developing countries, women are under high risk for several reproductive health problems, especially RTIs/STIs. Studies have found the prevalence of RTI in India, Bangladesh, Egypt, and Kenya in the range of 52-90% (3). Studies conducted in India have documented a high prevalence of RTI/STI such as lower abdominal pain, abnormal vaginal discharge, irregular vaginal bleeding, and menstrual problems among women in the reproductive age (4, 5). The estimates are based on either clinical examination or self-reporting. RTIs including STIs and are increasing rapidly and are recognized as a serious public health problem all over the world. RTI cause suffering both to men and women but their consequences are more severe among women (2, 6, 7). RTI often go undiagnosed and untreated among women because rural women are too shy to consult a doctor. RTIs especially STIs cause a wide spectrum of pathology in women which includes vaginitis, cervicitis, endometritis, salpingitis, pelvic inflammatory disease (PID), ectopic pregnancy (EP), infertility and also prematurity, stillbirth; conjunctivitis and pneumonia in the neonates. Infertility, PID, EP, miscarriage, cervical cancer, and an increased risk of HIV transmission are severe consequences of RTI (2, 8). RTIs are a serious concern in the era of HIV since even the non-ulcerative STIs increase the risk of HIV transmission by 3-5 folds (9). Untreated STI may lead to infertility and other adverse fetal outcomes in women (10). Adolescents are also exposed to RTI due to their ignorance of risk

factors, inadequate accessibility to services, insufficient knowledge, and social powerhouses (11, 12). The important reasons for such problems are early marriage, high fertility, higher number of pregnancy and unsafe sex.

A number of studies have been done to see the scenario of RTI/STI which covers the epidemiological, clinical, and diagnostic dimensions of RTI. In India, a few studies regarding RTI treatment seeking are available. Rani and Bonu (13) studied in rural India found that 31% sought treatment for RTI/STI; the majority of women had treatment from private sectors. The 2002 ICMR community-based prevalence study of STI/RTI has shown that 5-6% of sexually active adult population is suffering from some form of STI/RTI. The 2005 ICMR multicenter rapid assessment survey indicates that 12% of female and 6% of male clients attended outpatient department in primary care settings for complaints of related to STI/RTI.

The issues of reproductive and sexual health, especially RTI/STI, have attracted attention since the International Conference on Population and Development held at Cairo in 1994. Many developing countries have paid more attention on reproductive health service to all the population. In India, the Reproductive and Child Health (RCH) programme that was initiated in 1997. It worked through the network of health centers all over the nation and addressed the matter of reproductive health directly which was largely ignored by the public health services earlier. The National RTI/STI Prevention and Control Programme is an integrated effect of NACO and NRHM that utilizes the public health services available from medical colleges, to peripheral health units [Primary Health Centers, Community Health Centers (CHC), First Referral Units, District Hospitals, and RTI/STI clinics, etc.] for the prevention and treatment of RTI and STI among general population (10).

According to the estimates of the World Health Organization, 340 million cases of curable STIs occur globally. STI are among top five reasons for seeking health care services (10). In India, several studies reveal that high rate of reproductive wastage, number of pregnancy, and contraceptive use strongly

influence on RTI/STI across the country specially difference with place of residence, so there is need to study on prevalence of RTI and treatment seeking among rural women because a large number of women are residing in rural areas. RTI, being a sensitive matter, rural women may be too shy to consult a doctor. The RTI/STI is closely related to sexual practices and behaviors. Females generally do not know the difference between RTI/STI and STD. There is a lack of open environment for females in Uttar Pradesh. However, awareness of RTI/STI is extremely poor among ever-married females.

The objectives of the present study are following:

1. The main objective of this study is to find the prevalence of RTIs/STIs among ever-married women aged 15-49 in Uttar Pradesh
2. To study the level of knowledge and mode of transmission of RTIs/STIs
3. To examine the health seeking behavior of RTIs/STIs.

Methods

For the present study, we have used data from the third round of District Level Household & Facility Survey (DLHS-III) conducted during 2007-08. District Level Household Survey (DLHS) is a nationwide survey which provides data on various aspects of health care utilization and RCH services at district level. In DHLS-RCH information was collected as the common symptoms of RTIs and STIs from women in the 3 months immediately preceding the survey. In Uttar Pradesh, 90,415 households were covered; from these surveys household 87,564 currently married women aged 15-49 and 23,110 unmarried women were interviewed. The ever-married women from selected households were interviewed by administering the questionnaire specially designed for women to capture the information on awareness, knowledge, and presence of any symptoms of RTIs/STIs in 3 months preceding the survey. The prevalence of RTI and sexually transmitted tract infection is judged by their self-reported symptoms. Further, those who reported any kind of symptom of RTI/STI was asked about treatment seeking and the place of treatment. To know the level of

knowledge of RTI/STI the modes of transmission of RTI/STI were asked among those who have heard about RTI/STI.

Results

Table 1 represents the percent knowledge about RTIs/STIs among ever-married females age 15-49 years according to socio-demographic determinants. Only 29% women have heard the word RTI/STI. About 41% urban and 27% rural females have heard about RTI/STI. There is much difference between rural and urban females about RTI/STI knowledge. The reason behind this may be more awareness and openness in the urban region as comparison to rural regarding RTI/STI. Rural women are shy about the discussing issues related to the reproductive and sexually disease than urban females. Further, Muslims are more aware than Hindus as 34% Muslims, and 28% non-Muslims are aware of RTI/STI. Education plays a great role and has a strong correlation with awareness. RTI/STI awareness in illiterates is 29% while 56% in high-school and above-educated females. RTI/STI awareness increases with age then saturates and the further decline. The reason for it may be that 15-19 years females are quite young and some of them still experiencing physical as well as sexual changes in their body. 20-29 years females have the highest fecundity, and they are quite mature and aware of RTI/STI with 30% in 20-24 years age group and 32% in 25-29 years age group. Then, very slight decrease in 30-34 and 35-39 years age group is observed. Then, above 40 years awareness is again decreased to 28% and a decrease in awareness may be because of too old females. Only 18% females of poorest wealth index quintiles are aware while 48% in richest wealth index quintile. This may be because of maximum proportion of females belonging to richest wealth index quintiles are educated while those from poorest wealth index quintiles are illiterate.

As zones are concerned, it has been observed that there is much spatial variation regarding awareness of RTI/STI is observed among various zones of Uttar Pradesh. The Western zone has lowest awareness percentage of

RTI/STI which is 15% only. Central zone and eastern zone have similar 36% and 37% awareness while Bundelkhand zone has maximum 40% awareness.

Further among these RTI/STI aware women, the modes of transmission of RTI/STI were asked and only 62% were aware of the transmission of RTI/STI by having unsafe sex with a person having more than one sexual partner. It is interesting that among these RTI/STI aware women 60 women reported that they do not know any mode of transmission of RTI/STI. This means that the percent of RTI/STI aware females will further decrease and reduced to 17% which shows very poor awareness. Knowledge for each transmission mode of RTI/STI is more in rural than urban except transmission by unsafe delivery.

Table 2 represents the percent distribution of various types of RTI/STI problems among the ever-married women. Unusual vaginal discharge and low backache were the two most prevalent problems and corresponding percentages are 20 and 14, respectively. Only 6% females reported the problem of pain in the lower abdomen, which is not related to the menses. Rest of the problems such as irritation or itching over vulva, boils/ulcers/warts around the vulva, pain during urination or defecation, painful blisters such as lesions in and around the vagina and swelling in the groin was < 5% present. Here, no significant difference has been seen in the prevalence of different RTI/STI problems due to different background characteristics such as place of residence, age of respondent, religion, education, wealth index, and zone of the Uttar Pradesh.

Table 1. Percent distribution of knowledge about RTI/STI among ever-married females aged 15-49 years, according to some socio-demographic characteristics

Characteristics	N	Ever heard of RTI/STI	Knowledge about modes of transmission of RTI/STI [#]						
			Unsafe delivery	Unsafe abortion	Unsafe IUD insertion	Unsafe homo sex	Unsafe multiple sex	Sex workers	Do not know
Place of residence									
Rural	72,315	26.8	18.2	11.0	7.2	11.5	60.7	12.7	62.3
Urban	15,202	40.9	16.3	11.3	8.6	14.1	67.6	15.5	53.7
Religion									
Hindu and others	73,450	28.4	17.8	11.4	7.9	12.4	63.9	13.7	57.6
Muslim	14,067	33.8	16.7	9.3	5.5	11.1	54.1	12.5	71.7
Age group									
15-20	11,409	24.5	14.2	8.2	6.5	10.5	68.1	13.6	62.4
21-25	16,793	30.3	15.5	10.3	7.0	13.6	66.6	12.4	58.9
26-30	16,482	31.7	18.6	11.8	8.6	13.0	63.6	13.7	58.0
31-35	14,813	30.0	18.0	10.9	7.8	12.0	61.0	14.5	59.5
36-40	12,715	29.1	19.5	12.6	8.2	10.9	59.1	14.1	60.2
41-45	9819	28.5	20.1	12.1	6.8	11.8	57.1	13.0	63.3
46-49	5486	28.1	18.6	11.6	7.2	12.0	58.6	13.4	64.8
Education									
Illiterate	53,541	21.8	19.5	10.5	4.9	8.3	48.9	11.5	73.8
Middle	22,859	33.4	16.8	10.1	6.8	10.3	64.4	12.8	55.9
High school+	11,117	56.5	17.0	12.5	10.6	17.1	72.4	15.8	40.4
Wealth index quintiles									
Poorest	17,510	18.1	20.2	9.2	5.9	6.1	52.0	10.5	73.6
Second	17,495	20.8	18.5	10.4	5.4	10.3	55.0	13.5	68.7
Middle	17,507	26.4	18.2	10.7	5.9	10.0	57.9	13.5	65.6
Fourth	17,499	33.0	17.1	10.3	7.2	11.4	63.5	12.4	60.5
Richest	17,506	47.9	17.1	12.2	9.4	15.2	68.0	14.7	48.4
Region									
Bundelkhand	25,908	39.6	21.3	12.6	7.3	10.4	46.6	8.4	67.7
Central	15,971	26.9	14.1	8.8	5.9	11.2	63.7	15.2	48.7
Western	7556	15.3	19.5	10.6	8.9	8.1	76.8	29.9	28.0
Eastern	38,082	26.0	16.2	11.2	8.6	15.3	72.9	13.4	61.3
Total in %	87,517	29.2	17.7	11.1	7.6	12.2	62.6	13.5	60.2

[#]Percent based on only those who are aware of RTI/STI. RTI: Reproductive tract infection, STI: Sexually transmitted infection, IUD: Intrauterine device

Table 2. Percent distribution of prevalence of various types of problems of RTI/STI among ever-married females aged 15-49 years, according to some socio-demographic characteristics (multiple responses possible)

Characteristics	N	Type of problems							
		Unusual vaginal discharge	Itching or irritation over vulva	Boils/ulcers/warts around vulva	Pain in lower abdomen not related to menses	Pain during urination	Swelling in the groin	Painful blister-like lesions in and around vagina	Low backache
Place of residence									
Rural	72,315	19.8	5.4	1.9	5.9	3.2	1.4	0.6	14.3
Urban	15,202	20.5	4.6	1.5	5.3	2.6	1.2	0.3	14.4
Religion									
Hindu and others	73,450	18.9	5.3	1.8	5.7	3.1	1.3	0.6	13.8
Muslim	14,067	25.4	5.1	1.8	6.1	3.2	1.4	0.4	17.0
Age-group									
15-20	11,409	14.1	4.3	1.6	4.5	2.4	1.0	0.4	8.8
21-25	16,793	18.6	4.9	1.7	5.6	2.7	1.2	0.5	12.7
26-30	16,482	23.4	5.7	2.1	6.4	3.5	1.3	0.6	15.5
31-35	14,813	23.9	5.9	2.0	6.5	3.7	1.7	0.6	16.9
36-40	12,715	21.9	5.7	1.8	6.3	3.3	1.5	0.6	16.5
41-45	9819	17.5	4.8	1.7	5.5	3.1	1.3	0.6	15.1
46-49	5486	14.2	4.6	1.4	4.6	2.6	1.2	0.5	13.7
Education									
Illiterate	53,541	20.7	5.1	1.8	5.9	3.4	1.4	0.6	14.6
Middle	22,859	20.7	6.1	2.0	6.1	3.1	1.5	0.6	14.9
High school+	11,117	14.4	4.3	1.5	4.2	1.9	1.0	0.4	11.6
Wealth index quintiles									
Poorest	17,510	18.1	5.3	2.1	6.0	3.7	1.3	0.6	12.8
Second	17,495	20.1	5.2	1.9	6.1	3.1	1.4	0.6	13.8
Middle	17,507	21.5	5.6	1.7	6.0	3.2	1.5	0.6	15.1
Fourth	17,499	22.4	5.4	1.9	5.9	3.1	1.3	0.5	15.9
Richest	17,506	17.5	4.6	1.5	4.8	3.6	1.1	0.5	14.0
Region									
Bundelkhand	25,908	30.6	6.8	2.1	6.7	3.5	1.8	0.5	20.3
Central	15,971	15.1	7.8	2.5	7.3	4.0	2.0	1.0	13.4
Western	7556	15.6	5.6	2.1	5.0	2.4	1.0	0.6	8.9
Eastern	38,082	15.5	3.0	1.3	4.7	2.7	0.8	0.4	11.7
Total	87,517	19.9	5.2	1.8	5.8	3.1	1.3	0.6	14.3

RTI: Reproductive tract infection, STI: Sexually transmitted infection

Table 3 presents the treatment seeking behavior of RTI/STI infected females. Among these women, about 40% women consulted the problem to husband/friend/relative and/or doctor and sought treatment.

Place of treatment has been broadly classified into government and private sector. 84% women went to the private sector for the treatment and rest to the government sector. 38% rural and 49% urban women seek treatment according to the study. Thus, there is a large gap between rural and urban women treatment seeking behavior. About 16% rural and 15% urban female go to government hospitals, and rest is going to the private sector for treatment. Thus, there is not much variation in treatment seeking percentages regarding government or private hospitals/clinics. Treatment seeking behavior is more in Muslims. 44% Muslims while only 39% non-Muslims

sought some advice and/or treatment. Treatment seeking has a positive association with age of the respondent. It increases with increasing age and ranges from 27% to 48% for age groups 15-19 years and 45-49 years, respectively. As per as education is concerned treatment seeking increases with increasing education. 40% illiterate and 48% women who are having 10 or more years of education sought treatment. These high educated females prefer treatment in private sectors. Similar behavior is seen in wealth index quintiles. Females belonging to upper two quintiles, i.e., fourth and richest sought 43% and 42% treatment while only 33% females of lower two quintiles (i.e., poorest and second) sought treatment. As per as zones are concerned minimum treatment seeking is 31% for western zone followed by central zone by 37% and then Bundelkhand zone and eastern zone, both 47%.

Table 3. Percent distribution of treatment seeking behaviour of RTI/STI affected females among ever married females aged 15-49, according to some socio-demographic characteristics

Characteristics	N	Consult Anybody or Seek Treatment	Place of Treatment	
			Govt	Private
Place of residence				
Rural	72315	38.3*	16.0	84.0
Urban	15202	48.6*	14.9	85.1
Religion				
Hindu & others	73450	39.2*	16.4*	83.6*
Muslim	14067	43.8*	13.2*	86.8*
Age-group				
15-20	11409	27.0*	17.8	82.2
21-25	16793	34.6*	14.2	85.8
26-30	16482	40.0*	16.4	83.6
31-35	14813	43.4*	15.3	84.7
36-40	12715	44.4*	16.7	83.3
41-45	9819	45.1*	16.4	83.6
46-49	5486	47.8*	13.3	86.7
Education				
Illiterate	53541	39.7*	15.7	84.3
Middle	22859	42.1*	16.6	83.4
High school+	11117	47.7*	13.9	86.1
Wealth index quintiles				
Poorest	17510	32.6*	18.0**	82.0**
Second	17495	33.2*	16.5**	83.5**
Middle	17507	38.8*	16.7**	83.3**
Fourth	17499	43.3*	14.9**	85.1**
Richest	17506	52.5*	13.9**	86.1**
Region				
Bundelkhand	25908	41.6*	11.3*	88.7*
Central	15971	36.9*	18.8*	81.2*
Western	7556	30.9*	14.6*	85.4*
Eastern	38082	41.6*	16.9*	83.1*
Total	87517	40.0	15.8	84.2

*Percent based on RTI/STI affected women. RTI: Reproductive tract infection, STI: Sexually transmitted infection

* Significant at 5% level of significance, ** significant at 1% level of significance.

Conclusion

This study reveals that the prevalence of RTI/STI is quite high among married women of reproductive age, especially among rural women because of low literacy and non-availability of treatment facilities. The prevalence of RTI/STI was found proportionally associated with illiteracy. The most common reported symptom of RTI/STI is unusual vaginal discharge. Urban women and high-school or above-educated women are more aware of RTI/STI as compare to rural and illiterate women. Most of the RTI/STI infected females sought treatment in the private medical sector because of the better facility and better patient attending behavior and privacy. In the government sector, all facilities are not available in small public sector undertakings, CHC, and subcenters, etc., and specialist doctors are also not available every day. The main source of information about RTI/STI is relatives/friends. More than half of the women do not know any mode of transmission of RTI/STI among those who have heard of RTI/STI. Throughout the study, we find that prevalence of the reproductive and sexual problem is independent of place of residence, but treatment seeking behavior depends on it. Socio-economic and demographic factors have a significant influence on the prevalence of RTI/STI and treatment seeking behavior among rural woman.

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