

Prevalence of Reproductive Tract Infections and Sexually Transmitted Diseases in central rural Area of Yavatmal District, Maharashtra, India

Amar Surjushe, Anand Saraswat*, Sharad Rakhunde, Vaishali Atram and R. B. Chavan

Department of Dermatology, Venereology and Leprology, Shri Vasantnaik Government Medical College, Yavatmal, Maharashtra, India- 445001

QR Code



*Correspondence Info:

Dr. Anand Saraswat,
Department of Dermatology, Venereology and Leprology,
Shri Vasantnaik Government Medical College,
Yavatmal, Maharashtra, India- 445001

*Article History:

Received: 03/09/2018

Revised: 10/09/2018

Accepted: 11/09/2018

DOI: <https://doi.org/10.7439/ijbar.v9i9.4906>

Abstract

Background: Reproductive tract infections (RTIs) and Sexually Transmitted Diseases (STD) are increasingly recognized as a major cause of morbidity in India. RTI have become widespread today because of the changing social fabric and unconventional sexual behaviors. The present study was done to assess the prevalence of RTI and STD in rural Area of Yavatmal District.

Methods: The study enrolled total 14,597 patients, who were attending tertiary care center with syndromes of RTIs during the period of Jan 2012- Dec 2016. Different laboratory methods and techniques were applied to identify the possible microorganisms. Data were collected in excel sheet and frequency of various RTIs were determined.

Results: Prevalence of RTI / STD symptoms during the 5 years of study period was found to be 35.11% and 64.88% among males and females, respectively. The overall prevalence of RTI was found to be 96.12% (14031 patients) with maximum prevalence of 98.08% in the age group 25-44 years. The most common symptom was vaginal/cervical discharge (VCD) (76.81%) among females and urethral discharge (UD) (14.89%) among males. Lower abdominal pain was reported by 13.62%; complaint of genital ulcer reported in 8.55%, inguinal bubo in 0.16%, others symptoms i.e. general itching / Scabies / molluscum etc. In 21.88% and none complained of genital wart. The Rapid Plasma Reagin test and ELISA test was positive in 0.45% and 0.24% of patients respectively.

Conclusion: It was found that the prevalence of RTI/STD symptoms was high in women than men in rural Area of Yavatmal District. With the prevailing burden of RTIs, it is important to create awareness and to health educate all women and men to reduce increasing trend of RTIs.

Keywords: Reproductive tract infections, Sexually Transmitted Diseases, Vaginal/ Cervical Discharge, Urethral Discharge, Genital Ulcer, Inguinal Bubo, Rapid Plasma Reagin test and ELISA.

1. Introduction

Reproductive Tract Infections (RTIs) remain a public health problem of major significance in most parts of the world [1]. RTIs include three types of infection: 1) Sexually Transmitted Diseases (STDs), such as chlamydia, gonorrhea, chancroid, and human immunodeficiency virus (HIV); 2) Endogenous Infections, which are caused by overgrowth of organisms normally present in the genital tract of healthy women, such as Bacterial Vaginosis or Vulvo vaginal Candidiasis; and 3) Iatrogenic Infections, which are associated with improperly performed medical

procedures such as unsafe abortion or poor delivery practices. RTIs are preventable, and many are treatable as well [2].

Globally, according to 2005 World Health Organization (WHO) estimates, 448 million new cases of curable STIs (syphilis, gonorrhea, chlamydia, and trichomoniasis) occur annually in adults aged 15-49 years [3]. In India, the annual incidence of STIs is estimated to be 5% [4] and it continues to pose a major cause of morbidity, especially among the females in the reproductive age group. Various community-based studies in India have shown the

prevalence of RTIs to range from 39% to 84% [5,6]. It not only depends on the prevalence of RTIs/STIs in that area, but also on various other factors such as the inability of women to take decisions on their own, their impoverish status within the family, and their health seeking behavior. Most of the Indian studies in the field of reproductive health care are based on clinical examination and a few are based on laboratory tests [7].

Men and women in the rural part of India are more prone for RTI when compared to urban area. In central rural Area of Yavatmal district, the burden of STI is high but there is little information on the incidence and prevalence of STIs. With this in view present study was planned to be conducted in specified region in order to find out the prevalence of common RTI by laboratory investigations.

2. Methodology

The current study enrolled total 14,597 patients, who attended tertiary care center with syndromes of RTIs during the period of Jan 2012- Dec 2016. Different laboratory methods and techniques [8,9] were applied to identify the possible microorganisms.

The rapid plasma regain (RPR) test is a type of rapid diagnostic test that looks for non-specific antibodies in the blood of the patient that may indicate a syphilis infection. In present study, it was conducted in 13,993 patients. An enzyme-linked immunosorbent assay, also called ELISA or EIA, this test can be used to determine the antibodies related to certain infectious conditions. An ELISA test may be used to diagnose: HIV, which causes AIDS. This ELISA test was conducted in total 11,409 patients during the study period. All the data were collected in excel sheet and prevalence of various RTIs among symptomatic patients in rural area of the Yavatmal district were determined.

3. Observations and Results

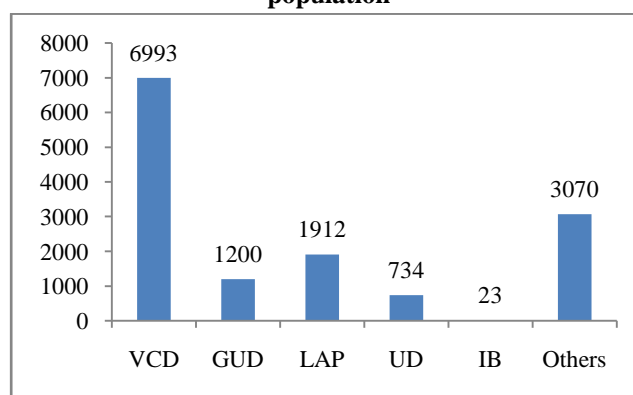
Total 14,597 patients were included in the study, among them 5,127 patients were males and 9,470 patients were females. Prevalence of RTI / STD symptoms during the 5 years of study period was found to be 35.11% and 64.88% among males and females, respectively. The trend in relation to age showed maximum prevalence of RTI in the age group of 25–44 years (98.08%). The overall prevalence of RTI was found to be 96.12% (14031 patients) as shown in table 1.

Table 1: Age wise distribution of patients

Age Group	No. of Participants	No. of symptomatic Patients	Percentage
<20	287	227	79.09
20-24	1,898	1,763	92.88
25-44	11,155	10,941	98.08
>44	1,257	1,100	87.50
Total	14,597	14,031	96.12

The prevalence of symptoms among the symptomatic patients was shown in figure 1. The most common presentation among women was vaginal/cervical discharge (VCD) (76.81%). Complain of genital ulcer disease (GUD) reported in overall 8.55% of patients, among them 21.33% was non-herpetic (NH) and 78.66% were herpetic (H) cases. Lower abdominal pain (LAP) was reported by 13.62%. The most common symptom among males was urethral discharge (UD) (14.89%). Inguinal bubo (IB) (Inguinal Lymphadenitis) reported in 0.16% cases, others symptoms i.e. general itching / Scabies / molluscum etc. In 21.88% and none complained of genital wart. The rapid plasma regain test was positive in 64 (0.45%) cases and ELISA test was positive in 35 (0.24%) cases.

Figure 1: The prevalence of symptoms among the study population



4. Discussion

The concept of sexual and reproductive health was first fully articulated at International conference on population and development at Cairo in 1994 and the Government of India has launched reproductive and child health programme in 1997 with special emphasis on management of Reproductive Tract Infections (RTI) [10]. The importance of control of RTI has increased with the introduction of HIV/AIDS epidemics in the country [11]. RTI have become widespread today because of the changing social fabric and unconventional sexual behaviors. The incidence of RTI is now reaching enormous proportion globally. However it may be sexually transmitted or caused by unsafe medical procedures or due to overgrowth of organisms that normally inhabit the genital tract [12].

In current study, total 14,031 subjects (96.12%) reported symptoms suggestive of RTI / STI in the last 5 years, of which 4,927 were male (35.11% among males) and 9,104 were female (64.88% among females). The prevalence of RTIs was more common in the age group between 25-44 years with female predominance which is comparable with the studies of Bhilwar *et al* [13], Nandan *et al* [14], Sharma *et al* [15] and Rathod *et al* [16]. Similarly Gupta *et al* [17] reported the commonest affected age group was 26-35 years, which is a period of maximal sexual and

reproductive activity. With increasing age women experienced longer married life, pregnancies, gynecological surgeries, use of invasive contraceptives; these make women more vulnerable to RTIs. A study on community-level health-education intervention [18] reported an improvement in the level of awareness among both men and women regarding RTIs and STDs and hence revealed an eight-fold increase in their clinic attendance.

The overall prevalence of RTI/STD in our study was found to be 96.12% which was closely related to the study done by Gupta *et al* [19], in which they found prevalence of RTI/STD was significantly higher 95.5% in rural population. Similar study was also undertaken by Panda *et al* [20] and Nandan *et al* [14] showed the prevalence of RTI/STD is higher in rural population. The prevalence of RTIs/STDs was also found to be 49% in a rural area of Agra, while 70% of the women studied in rural area of Haryana were found to be suffering from RTIs [14,21]. Other studies have reported similar rates of RTIs in community based studies in developing countries [5,7]. Also the prevalence of RTIs was 51.9% in community based study conducted by Sharma *et al* [15] in rural area of Himachal Pradesh. The reason behind the high prevalence of RTI/STD in rural population is that the health services are not equally distributed so they are less accessible for rural population and also because of lack of awareness in rural population.

Vaginal or cervical discharge (76.81%) was reported as the most common symptom by the rural women followed by lower abdominal pain (13.62%), this was closely related to the study done by Rathod *et al* [16] and Verma *et al* [22]. The complain of genital ulcer reported in 8.55% and inguinal bubo in 0.16% cases, these prevalence was much higher than prevalence reported in previous studies [15, 16].

5. Strengths and limitations

The present study was conducted in rural areas of Yavatmal district in Maharashtra. The author would take liberty to state that, no studies were undertaken till date in specified region to find the prevalence of RTIs. Also there were some limitations in the study and that should be noted. Since the study was conducted in the rural area and due to lack of infrastructure, the gold standard test for diagnosing the RTI were not used.

6. Conclusion

It was found that the prevalence of RTI/STD symptoms was high in women than men. In women the commonest reported symptom of RTI/STI was vaginal discharge. With the prevailing burden of RTIs, it is important to create awareness and educate all women and men to reduce increasing trend of RTIs. This could be possible only with proper planning and implementation of

health programmes in such a way that it should reach every woman and men residing in the rural areas.

There is a need to conduct further studies to assess various behavioral and socio-demographic factors, predisposing these women to the risk of RTIs and STDs. Also, there is a need to educate women and men about the symptoms of RTI/STI, their prevention, and the importance of timely treatment in both urban and rural areas.

Recommendations

Health programmes and MCH services are to be structured in such a way that it should deliver intensive education and create awareness about the RTIs and their modes of spread in order to prevent the RTIs. Also proper menstrual and perineal care should be taken for all women especially during their adolescent age itself. Training to the health care workers in the aspects of picking the cases, suffering from RTI and early treatment and improving the infrastructure of primary health centers in rural areas with appropriate laboratory investigations to diagnose RTI is needed.

References

- [1]. World Health Organization. Guidelines for the management of sexually transmitted infections- A guide to essential practice. Geneva, Switzerland; 2003: 1.
- [2]. Wasserheit JN, Holmes KK. Reproductive tract infections: challenges for international health policy, programs, and research. In: Germain A, Holmes KK, Piot P, Wasserheit JN, editors. Reproductive tract infections: global impact and priorities for women's reproductive health. New York: Plenum Press; 1992: 7-33.
- [3]. WHO. Sexually Transmitted Diseases. Fact Sheet No. 110; August. 2011
- [4]. New Delhi: National AIDS Control Organisation; 2007. Government of India, Ministry of Health and Family Welfare. National Guidelines on Prevention, Management and Control of Reproductive tract Infections Including Sexually Transmitted Diseases.
- [5]. Bang RA, Bang AT, Baitule M, Choudhary Y, Sarmukaddam S, Tale O. High prevalence of gynaecological diseases in rural Indian women. *Lancet*. 1989; 1:85-8.
- [6]. Latha K, Kanani SJ, Maitra N, Bhattacharya RV. Prevalence of clinically detectable gynaecological morbidity in India: Results of four community based studies. *Fam Welf*. 1997; 43:8-16.
- [7]. Passey M, Mgnoe CS, Lupiva S, Tiwara S, Lupiva T, Alpres MP. Screening for sexually transmitted diseases in rural women in Papua New Guinea: Are WHO therapeutic algorithms appropriate for case detection? *Bull World Health Organ*. 1998; 76:401-11.

- [8]. UNFPA. Training in Laboratory Investigations for Common RTIs. A Manual for Laboratory Workers, Diagnosis of STDs, NACO, New Delhi, 1998.
- [9]. Vaginitis testing without microscope. *Clin Rev.* 1998; 8(4):133.
- [10]. National Institute of Health and Family Welfare. Reproductive & child health module for medical officers. In NIHFWS, eds. A Report. New Delhi: National Institute of Health & Family Welfare; 2000.
- [11]. NACO-Online. Family welfare programme in India, 2004. Available at: http://www.nacoonline.org/prog_sche_campaign.htm Accessed July 2004.
- [12]. Sinha HH, Mishra MG. Socio demographic Profile & clinical evaluation of RTIs in rural women of Patna, *J Obstet Gynecol India.* 2001 Nov/Dec; 51(6):124-6.
- [13]. Bhilwar M, Lal P, Sharma N, Bhalla P, Kumar A. Prevalence of reproductive tract infections and their determinants in married women residing in an urban slum of North-East Delhi, India. *J Ntrl Sci Bio Med.* 2015; 6:29-4.
- [14]. Nandan D, Misra SK, Sharma A, Jain M. Estimation of prevalence of RTIs/STDs among women of reproductive age group in Dist. Agra. *J Med.* 2002; 37:110-3.
- [15]. Sharma S, Gupta BP. The prevalence of reproductive tract infection and sexually transmitted diseases among married women in the reproductive age group in rural area. *Indian J Community Med.* 2009; 34(1): 62-4.
- [16]. Rathod DS, Shelke AD, Naik DB, Kesari PM. Prevalence of reproductive tract infections and sexually transmitted infections among married women in the reproductive age group in urban slum of Bidar, Karnataka. *Int J Community Med Public Health* 2017; 4: 4182-5.
- [17]. Gupta V, Gupta P, Chatterjee B, Bansal R. Clinico-microbiological profile of women with vaginal discharge. *Int J Gynecol Obstet India.* 2006 Jul-Aug; 9(4):46-8.
- [18]. Oomman NM. Poverty and Pathology: Comparing Rural Rajasthan Women's Ethnomedical Models with Biomedical Models of Reproductive Behaviour. Ph.D. Thesis Johns Hopkins University. 1996
- [19]. Gupta U, Sinha P, Inam L, Gupta S. Socio-demographic profile of reproductive tract infections and sexually transmitted diseases in reproductive aged women. *Int J Reprod Contracept Obstet Gynecol* 2015; 4:595-600.
- [20]. Panda SC, Sarangi L, Bebartta D, Parida S, Panigarhi OP. Prevalence of RTI/STI among women of reproductive age in district Sundergarh (Orissa) - Indmedica. *Indian J Pract Doct.* 2007; 4(1): 516.
- [21]. Aggarwal AK, Kumar R, Gupta V, Sharma M. Community based study of reproductive tract infection among ever married women of reproductive age in a rural area of Haryana. *Indian J Community Med.* 1999; 31:223-8.
- [22]. Verma A, Kumar Meena J and Banerjee B. A Comparative Study of Prevalence of RTI/STI Symptoms and Treatment Seeking Behaviour among the Married Women in Urban and Rural Areas of Delhi. *International Journal of Reproductive Medicine* 2015; Article ID 563031: 1-8.