

# Study of Risk Factors for Infectious Vaginitis in Reproductive Women

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## ABSTRACT

**Introduction:** Vaginal infection is most common gynaecological problem in females especially in their reproductive age group. Infection of female genital tract results from vaginal flora, extraneous agent and sexually transmitted disease. The study aims to access risk factors of infectious vaginitis in reproductive females.

**Material and methods:** A Prospective study carried out on females of age group 15-49 years, diagnosed with infectious vaginitis in obs-gynae department, Ramprakash Gupta Memorial Mother and Child Referral Center, DRRMLIMS, Lucknow.

**Result:** Total 100 women were enrolled in the study. Maximum were literate, married and from rural background. Maximum females (75%) had a practice of using cloth napkins during their menstruation, (36%) had history of previous reproductive tract infections. Risk factors such as pregnancy, use of oral contraceptives were commonly present 10%, 15% respectively.

**Conclusion:** Vaginal infection is the most common cause of vaginitis. Awareness programme and hygiene practice are needed for education and to decrease the consequences of vaginal infections.

**Keyword:** Infectious Vaginitis, Risk Factors, Reproductive Females

## INTRODUCTION

The complaint of abnormal vaginal discharge is common among women in the reproductive age. Vaginal discharge may be due to physiological or pathological condition. Vaginal discharge that differs in odor, color, consistency or significantly decreases or increases in amount, may be due to an underlying problem like an infection. Vaginal infections are one of the most common gynaecological problems in women of reproductive age group. Causes for vaginal infection may be bacterial vaginosis, candidiasis, trichomoniasis, or in combinations. *Candida albicans* is responsible for most episodes of vulvovaginal candidiasis, a very common condition that affects up to 75% of women at least once in their lifetime. Trichomoniasis is the most common non-viral sexually transmitted disease, caused by the parasite protozoan *Trichomonas vaginalis* with an estimated 170 million cases occurring worldwide each year. Vaginitis may also involve imbalance in normal flora or pH of vagina, unhygienic practices, improper care during menstruation, pregnancy, diabetes, oral contraceptive pill use, immunodeficiency and occasionally hormonal and allergic factors<sup>1</sup>

WHO estimates that there are more than 340 million new patients of sexually transmitted infections every year and 75-85% of them from the developing countries and lead to severe complications on women's health.

The aim of our study was to access the risk factors contributing to vaginitis in women of reproductive age group.

## MATERIAL AND METHODS

This was a prospective, observational and descriptive type study. It was conducted in the department of Obs-Gynae, Dr Ramprakash Gupta Memorial Mother and Child Referral Center, DRRMLIMS, Lucknow from August 2017 to August 2018. The target population was reproductive aged females with age group between 15-49 years who were diagnosed with infectious vaginitis. A random selection was done. Inclusion criteria include females with infectious vaginitis in age group between 15-49 years. We excluded females with cognitive impairment and those who did not give their consent freely. All relevant clinical information such as patient demographic profile, socioeconomic variables, risk factors were collected by questionnaire-based study. Questionnaire includes information regarding patients' income, occupation, education status, complaints along with risk assessment such as presence or absence of STD, previous infection of reproductive tract, Diabetes, pregnancy, oral contraceptive use and information concerning sexual hygiene were collected.

## RESULTS

A total of 100 patients were assessed in the study. Maximum patients (50%) were of age group of 25-35 years. Among all patients, maximum were married (85%) and belonged to rural areas (75%). Their literacy ranging from primary schooling to post-graduate studies (88%) while 12% were illiterate. Literacy status lower than higher secondary education level was 44%. In this study, maximum patients (76%) were unemployed. Majority of patients had low income status. (Table-1)

Table (2) shows that maximum patients had a practice of using cloth napkins (washed, sundried and reusable) during their menstruation and 36% of them had previous infection in reproductive organ. (13%) were oral contraceptive users. (12%) had history of recent antibiotic or steroid users. (12%) were pregnant and (6%) had diabetes mellitus. Habit of

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Details		Number	%
Age group(years)	15-25	19	19%
	25-35	49	49%
	35-45	19	19%
	45-49	13	13%
Marital status	Married	85	85%
	Unmarried	15	15%
Residence	Rural	75	75%
	Urban	25	25%
Literacy	Illiterate	12	12%
	Literate	88	88%
Employment	Unemployed	76	76%
	Employed	25	25%
Family income/month(Rs)	Below 5000	08	08%
	5000-10000	14	14%
	10000-15000	37	37%
	Above 15000	41	41%

**Table-1:** Demographic and socio-economic profile of patients diagnosed with infectious vaginitis.

Factors	Number (N=100)	%
Practice of using cloth napkins during menstruation	70	70%
Previous infection of reproductive organ Sexually transmitted disease	36	36%
Oral contraceptive user	13	13%
Recent antibiotic/Steroid use	12	12%
Pregnancy	12	12%
Diabetes	6	6%
Cleanness of genitalia	100	100%

**Table-2:** Risk Factors for infectious vaginitis

daily cleanliness of reproductive organ was found in 100% patients with varied instance and frequency.

## DISCUSSION

Vaginal infection is a wide spread gynecological problem among females of reproductive females. The aim of this study was to assess the probable risk factors contributing vaginitis. Similar study was carried out by Mascarenhas et al<sup>9</sup> for assessing prevalence and risk factors on sexually active females. Similarly Bhalla et al (2007)<sup>2</sup> reported that adolescent and women of child bearing age were more affected by infectious vaginitis. In our study high cases of infectious vaginitis were observed in married women than unmarried women this may be due to effects of factors such as altered menstrual status, hormonal changes, sexual activity. Contraceptive use and pregnancy in females of these age groups which may contribute for higher risk of vaginal infection. Similar finding has been reported by Nzomo et al(2013)<sup>3</sup>. In our study maximum patients belonged to rural area. However maximum were illiterate ranging from primary education to post graduate studies and maximum patients were unemployed. These outcomes clearly indicate that disease prevalence is higher in population with low socioeconomic status. Balamurugan et al (2012)<sup>4</sup> were found similar result in their study (Table-1).

In India, adolescent and women particularly of rural areas mostly use the plain cloth napkins which were washed, and reused multiple times for subsequent cycles rather than hygienic disposable pads available in market. Some studies support the that unhygienic menstrual management practice corresponds to increased risk of bacterial vaginosis.<sup>5,6</sup> Baisley K et al<sup>5</sup> found in their study that bacterial vaginosis is important risk factor in female facility workers in north western Tanzania. Das P et al<sup>6</sup> also reported menstrual hygiene practices and risk of urogenital infections in women in their study. Our study reflects that majority of females with infectious vaginitis had practice of using cloth napkins. This may have contributed to vaginitis due to the variety that reused cloth napkins may not be well sanitized because of improper cleaning by people with low socioeconomic groups and rural areas. This findings coincides with studies related to menstruation hygiene in India.<sup>4,7</sup>

History of previous infections was the second most common risk factor. This may be due to improper medication or previously unrecognized complication. Similarly Carr et al (1998) reported evaluation and management of vaginitis in their study.<sup>8</sup> Other risk factors like pregnancy, use of contraceptive, recently antibiotic/steroids use, sexually transmitted disease, diabetes and hygienic issues. This results coincides with findings reported by Mascarenhas et al (2012).<sup>9</sup> Explanation regarding its basis includes that pregnancy induces environmental and hormonal changes and reduce immunity to fight infections. Diabetes alters host defence, steroid and antibiotics may weaken immune system, Oral contraceptive can change the vaginal flora, pH and estrogen level which may contribute infections.(Table-2).

## CONCLUSION

Infectious vaginitis is the most common complain of reproductive women. Based on present study result, use of cloth napkins during menstruation has the potential risk factors for infectious vaginitis. The study recommends that there are large need of creating awareness and educational programmes regarding reproductive health so consequences of vaginitis can be reduced and hence to reduce morbidity.

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