

Profile Of Vaginal Discharge Among Reproductive Women- A Hospital-Based Cross-Sectional Study

Sriandaal Venkateshvaran¹, R. Rajakeerthana^{2*}, Sudhir Ben Nelson B.T³, K.S.Chitra⁴

¹Assistant professor, Department of Community medicine, Velammal Medical College Hospital and Research Institute, Madurai, Tamilnadu

^{2*}Assistant professor, Department of Obstetrics & Gynaecology, Velammal Medical College Hospital and Research Institute, Madurai, Tamilnadu

³Associate professor, Department of Community medicine, Velammal Medical College Hospital and Research Institute, Madurai, Tamilnadu

⁴Professor & HoD, Department of Obstetrics & Gynaecology, Velammal Medical College Hospital and Research Institute, Madurai, Tamilnadu

*Corresponding Author: R. Rajakeerthana
Mail: suneel.kota@gmail.com

Abstract

Background: Women of reproductive age frequently experience vaginal discharge, which is a typical gynaecological symptom that may indicate several underlying medical issues. The reproductive period in a woman's life is marked by dynamic hormonal fluctuations, making the female reproductive system vulnerable to infections, hormonal imbalances, and other health-related issues. Determining the characteristics of vaginal discharge and associated factors is essential to comprehending the impact of reproductive health problems and creating efficient treatment and preventive measures.

Aims: This study aims to describe the profile of vaginal discharge among married women and to determine the various factors associated with different types of discharge.

Methods: This is a hospital-based, cross-sectional study conducted in the Gynaecology OPD of Velammal Medical College Hospital and Research Institute, Madurai. This study included 299 participants through convenient sampling. Ethical approval was obtained from the institutional ethical committee of Velammal Medical College Hospital and Research Institute. A structured questionnaire was administered to the participants for data collection. Statistical analysis was performed using PSpss v1.6.2.

Results: 299 women with vaginal discharge were studied. The discharge varied in colour and almost two-third had accompanying symptoms. Itching (61.20%) and white discharge (54.52%) were the most prevalent symptoms. 26.75% of women had pathological vaginal discharge. Statistical analysis revealed significant associations between age at marriage and parity with pathological vaginal discharge. Women using permanent contraception had a significant association with pathological vaginal discharge.

Conclusions: In conclusion, a good proportion of vaginal discharges are pathological and hence all vaginal discharge needs to be evaluated and treated as soon as possible.

Keywords: Vaginal discharge, Leucorrhea, Reproductive Women, Gynaecological Symptoms.

Introduction:

Vaginal discharge is one of the common complaints among women of reproductive age. It represents a complex interplay of the female reproductive system's physiological, hormonal, and microbial factors. While some degree of vaginal discharge is normal and necessary for maintaining vaginal health, alterations in its characteristics often indicate underlying health conditions.¹ Vaginal discharge is also called Leucorrhea, Leukorrhoea, Leucoria, the Whites, etc.² It can be physiological or pathological. Physiological is usually clear to white, in colour, while pathological, which is due to infection, is usually yellowish or in rare cases green. Most cases are due to bacterial vaginosis.³ In India, abnormal vaginal discharge is a prevalent genital problem.⁴ Abnormal vaginal discharge is reported as by far the most common symptom of Reproductive tract infection.⁵ Changes in consistency, colour, and odour can suggest infections, hormonal imbalances, or other gynaecological disorders, impacting the quality of life and overall reproductive health of affected women.⁶

Globally, studies have shown that a substantial proportion of women experience abnormal vaginal discharge at some point in their lives, leading to discomfort, anxiety, and potential complications if left untreated.⁷ Abnormal vaginal discharge and dysmenorrhea are the two most commonly reported gynaecological problems among menstruating women.⁸ The prevalence rates of abnormal vaginal discharge vary across different populations and geographical regions, influenced by socioeconomic factors, hygiene practices, sexual behaviour, and access to healthcare services.⁹ Leucorrhea is most often

ignored to due misconceptions and health-seeking behaviour is relatively poor. In addition to reluctance to go to a doctor, hesitance to communicate properly such a sensitive topic can also lead to delay or improper treatment.¹⁰ Indirect communication in addition to reluctance in self-reporting is often seen in women with vaginal discharge and can lead to delay in diagnosis and treatment.¹¹

Despite its prevalence and impact on women's well-being, there is limited research specifically focusing on the profile and associated factors of vaginal discharge, especially within hospital settings. Understanding the profile of vaginal discharge and its underlying causes is essential for healthcare providers to diagnose, treat, and prevent related complications effectively. Hospital-based studies offer a unique perspective, allowing for a comprehensive assessment of this common gynaecological symptom in a clinical context.¹² Such insights are pivotal for designing targeted interventions, improving diagnostic approaches, and enhancing the overall quality of reproductive healthcare services.

This study aims to fill the existing knowledge gap by investigating the problem of vaginal discharge among reproductive women in a hospital-based setting. Through a rigorous analysis of various information, the study intends to contribute valuable information that can guide healthcare professionals in providing optimal care for women experiencing vaginal discharge, thereby promoting their reproductive health and overall well-being.

Methods:

Study setting: Gynaecology Outpatient Department (OPD), Velammal Medical College Hospital & Research Institute, Madurai.

Study design: Hospital-based cross-sectional study.

Study period: September 2021 - December 2021

Study population: Married reproductive-age women (18-49 years) who were attending the Gynecology OPD with complaints of leucorrhoea during the 4 months.

Sampling Technique: Convenient sampling.

Sample size: 297

[Confidence level = 95

$p = 24.6\%$ ¹³ {assuming the prevalence of vaginal discharge}

$q = 1 - p$

Allowable error (d) = 5%

Minimum Sample required (N) = $4 * \left[\frac{p * q}{(d)^2} \right]$

$N = 4 * \left[\frac{24.6 * 75.4}{(5)^2} \right]$

$N = 4 * \left[\frac{7419.36}{25} \right] = 296.77$ samples]

Inclusion criteria: All married women of reproductive age group with leucorrhoea who have come to the OPD for any other gynecological disturbances.

Exclusion criteria:

Pregnant/lactating women,

Diabetic,

Those who have undergone hysterectomy,

Those who did not give consent.

Ethical Approval and informed consent: Ethical approval was taken from the Institutional Ethics Committee of Velammal Medical College Hospital and Research Institute. Written Informed consent was taken from all the participants.

Data Collection Tool: Structured Questionnaire.

Statistical analysis:

Descriptive analysis was carried out by frequency and proportion for categorical variables. Continuous variables were presented as mean \pm SD for normally distributed random variables and median (IQR) for non-normal variables. The chi-square test was used to test the statistical significance of cross-tabulation between categorical variables.

P value < 0.05 was considered statistically significant. Data was entered in Excel & Statistical software SPSS version 1.6.2 was used for data analysis.

Results:

This study included 299 married women with vaginal discharge. Table 1 provides a comprehensive description of the demographic characteristics, marital status, educational status, occupation, family size, and some behaviours of husbands (extramarital affairs, smoking, and drinking) in the study population. The average age of participants was 28 & average age of the husband was 30 years. Around 41.81% were from a nuclear family & 45% were homemakers. Almost one-third of the partners were alcoholics and chronic smokers.

Table 1: Descriptive analysis of women and their husbands in the study population (N=299)

Parameter	Characteristics	Frequency (percentage)
Average of women		28 years
Age of Husbands		30 years
Marital Status	Divorce	7 (2.34%)
	Married	280 (93.65%)
	Widow	12 (4.01%)
Educational Status	1-10th std	71 (23.75%)
	11-12th std	66(22.07%)
	Graduate & above	130(43.48%)
	Illiterate	32(10.70%)
Educational Status of Husband	1-10th std	73(24.41%)
	11-12th std	82(27.42%)
	Graduate & above	122(40.80%)
	Illiterate	22(7.36%)
Occupation	Clerical	6(2.01%)
	Home maker	136(45.48%)
	Profession	55(18.39%)
	Semi-profession	36(12.04%)
	Semiskilled	33(11.04%)
Total Number of Family Members	<=4	74(58.19%)
	5 and above	125(41.81%)
Extra marital affairs		16(5.35%)
Smoker Husband		101(33.78%)
Alcoholic Husband		101(33.78%)

Table 2 provides a comprehensive set of information related to menstrual history, including age, reproductive history, hygiene practices, symptoms, and screening behaviours. The mean age of menarche was 13 years. Most of the participants (80.2%) had regular cycles and almost half had dysmenorrhea. The usage of cloth was prevalent in around 12.7% and only 28.4% changed it in proper intervals. More than half (67%) had good hygienic practices related to menstruation.

Table 2: Descriptive analysis of Menstrual History in the study population (N=299)

Characteristics		Summary
Mean Age at Menarche		13 years
Age at Marriage	<=19 years	68(22.7%)
	20 years and above	231(77.3%)
Parity, n(%)	0	38(12.7%)
	1-2	186(62.2%)
	3 and above	75(25.1%)
Place of Delivery, n(%)	Government hospital	135(45.15%)
	Private	164(54.85%)
No of Abortion, n(%)	0	220(73.6%)
	1-2	65(21.7%)
	3 and above	14(4.7%)
Cycles, n(%)	Irregular	59(19.73%)
	Regular	240(80.27%)
Associated Symptoms, n(%)	Pain	163(54.52%)
	Vomiting	5(8.03%)
Material used during Menses, n(%)	Both	13(4.35%)
	Cloth	38(12.71%)
	Pad	248(82.94%)
Number of pads per day, n(%)	<=3	214(71.57%)
	4 and above	85(28.43%)
Washes perineum after each urination, n(%)		197(65.89%)
Washes the perineum before changing pad, n(%)		201(67.22%)

Profile Vaginal Discharge

Among the 299 women with vaginal discharge, 26.8% had yellowish vaginal discharge and 0.6% had blood-stained discharge (Fig 1). More than half of the participants, complained of foul smelling (56.7%) and itching (61.2%) discharge (Fig 2). Almost 50% of women with Leucorrhoea in our study had taken treatment for the same previously.

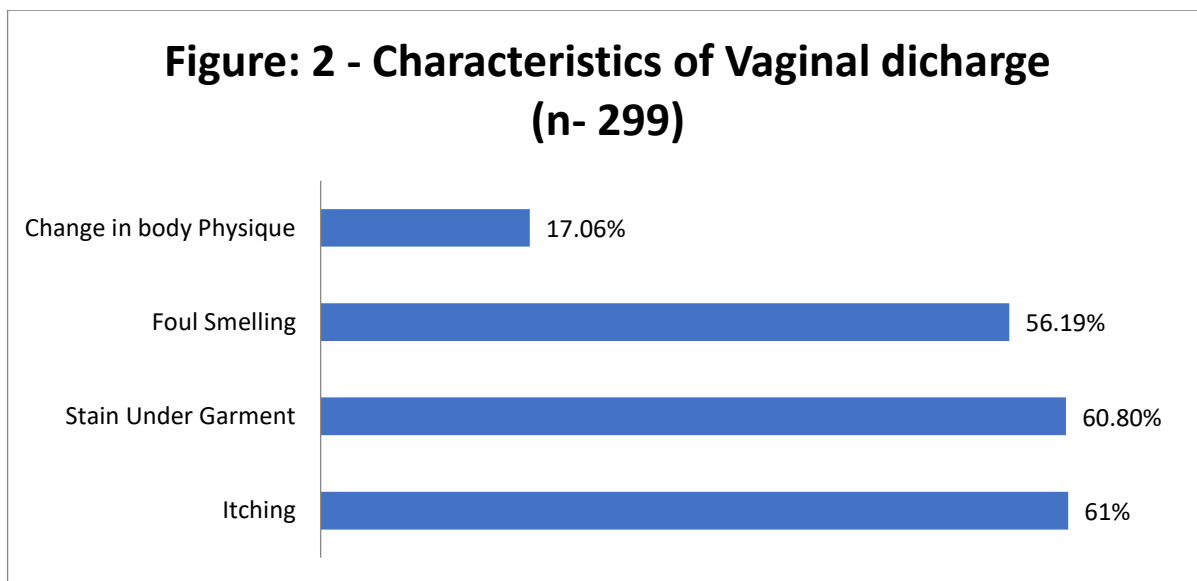
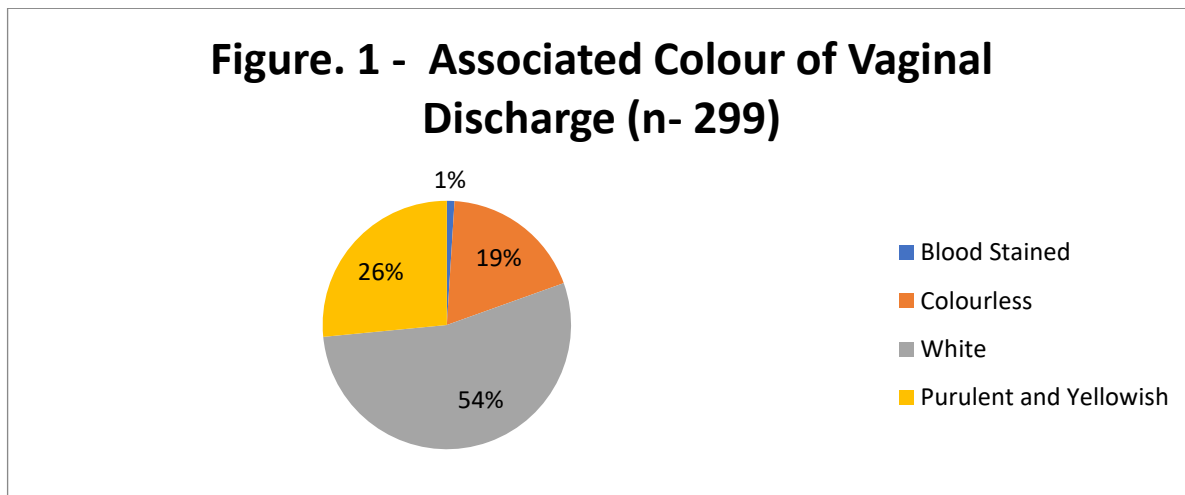


Table 3, provides insights into the association between the colour of vaginal discharge and various demographic and health-related factors. Age at marriage, Parity, and Type of contraception show significant association.

Table 3: Comparison of characteristics and type of Vaginal Discharge (N=299)

CHARACTERISTICS		Vaginal Discharge		P value
		Physiological	Pathological	
Age at marriage	Less than 19	58	10	0.01
	More than 20	161	70	
Parity	Nullipara	22	16	0.022
	Mutipara	197	64	
Types of contraception	Temporary	214	18	<0.001
	Permanent	44	23	

However, when individual types of contraception i.e. Condoms, Intrauterine devices (IUD), Oral contraceptive Pills (OCP) & permanent contraception (Sterilisation), were looked into, there is no significant association even though Condoms are more commonly associated with Pathological Leucorrhoea (Table 4).

Table 4: Comparison of types of Contraception and type of Vaginal Discharge (N=299)

Type of Contraception	Physiological	Pathological	P value
Condom	32 (69.5%)	14(30.4%)	0.682
IUD	55(72.3%)	21(27.6%)	
OCP	9 (100%)	0	
Sterilisation	124 (73.8%)	44 (26.19%)	

A significant association was seen between the type of contraception used and itching accompanying Vaginal discharge. It was also found that condoms are the least associated with Leucorrhoea with itching. (Table 5)

Table 5: Association between Itching and Contraception (N= 299)

Itching	Contraception				P value
	Condom	IUD	OCP	Permanent	
Yes	12 (26.1%)	53 (69.7%)	9 (100%)	120 (71.4%)	0.001
No	34 (73.9%)	23 (30.3%)	0	48 (28.6%)	

Discussion:

The study population exhibited a mean age of 28 years, with a predominant marital status of married individuals (93.65%). Educational attainment was diverse, with a significant proportion of participants (43.48%) having attained a graduate degree or above. Occupationally, less than half of the participants identified as homemakers (45.48%), while the rest had varied roles within the community. Family structure analysis revealed a relatively balanced distribution, with 58.19% having four or fewer family members. This demographic characteristic may have implications for healthcare access and family dynamics. The prevalence of extramarital affairs, smoker husbands (33.78%), and alcoholic husbands (33.78%) suggests potential areas for health education and intervention to address lifestyle factors influencing women's health.

The majority reported regular menstrual cycles (80.27%) and the use of pads during menstruation (82.94%). Hygiene practices, such as perineum washing after each urination (65.89%), demonstrate positive health behaviours among the participants. Hygiene practices, such as washing the perineum before changing pads, were prevalent among participants. Vaginal discharge reported by the participants was varied in colour and at times associated symptoms. The most common colour of discharge was white (54.52%) followed by yellow (26%). Thus 26% had abnormal vaginal discharge. In the study by Uwakwe et.al., 55% had an abnormal vaginal discharge.¹⁴ A study conducted by Varsha Chaudhary et.al. estimated the prevalence to be 24.6%.¹⁵ A higher percentage of 51% of infectious vaginal discharge was reported by R Sivaranjini et al.¹⁶ 56.2% of our study participants reported had experienced foul-smelling discharges, a finding similar to that of Uwakwe et.al., who reported 49.6%.¹⁴ However, only 30.3% complained about foul-smelling discharge in the study by Sivaranjini et al.¹⁶ In the current study, Leucorrhoea associated with itching or pruritis is seen in 61% of the women. A slightly higher percentage was reported in a study by John et al, where 71% reported pruritis.¹⁷ Such findings warrant further investigation into the aetiology and impact of these symptoms on women's health. Statistical analysis revealed significant associations between age at marriage and parity with the colour of vaginal discharge. Women married at more than 20 years of age exhibited a higher prevalence of pathological discharge compared to those married earlier. Similarly, nullipara had a greater likelihood of reporting abnormal discharge characteristics.

In the study by Varsha Chaudhary et. al. vaginal discharge was found to be more among females aged 43 and above (59.1%), married (26.2%), and housewives (26.1%).¹⁵ Whereas in a study by V. Patel the younger group experience higher incidence of vaginal discharges.¹⁸

Parity distribution indicated most women with 1-2 children (62.2%). The prevalence of deliveries in government hospitals (45.15%) versus private institutions (54.85%) showcases a mix of healthcare utilization patterns. History of induced abortion, home deliveries, and permanent method of sterilization were significantly associated with vaginal discharge in a study conducted by Guntoory et.al.¹⁹ In the current study sterilization i.e. permanent contraception was significantly associated with abnormal vaginal discharge whereas there was no clear trend based on the number of abortions reported.

Limitations:

This study was conducted in a single hospital, so it may not be able to capture the diversity of the population. This study was cross-sectional study, and hence the temporal sequence of events is not established.

Conclusion:

The study showed that a significant proportion of women reporting vaginal discharge was pathological and hence Leucorrhoea needs to be taken seriously and evaluated, identified, and treated as early as possible. This study highlights

how crucial it is to take into account family dynamics, contraceptive use, and demographic traits when analyzing a woman's reproductive health. The correlations shown between different variables and vaginal discharge offer insightful information to researchers, policymakers, and healthcare providers, opening the door to focused health education and intervention approaches to address lifestyle issues impacting women's health.

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