

# Assess the Prevalence of Self-Reported Vaginal Discharge, Perceived Causes and Associated Symptoms among Reproductive Aged Women

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## ABSTRACT

### Introduction:

Women's health is often suffering from gynaecological problems between puberty and post-menopause. This will have an impression on their sexual and reproductive health. Many ladies find that persistent discharge is often uncomfortable.

### Objectives:

The purpose of this study was to determine the prevalence of self-reported vaginal discharge, its perceived causes, and any associated symptoms among reproductive-aged women.

### Methods:

A community-based cross-sectional study was conducted among women of the reproductive age group (15-45 years) from the village of Kondancherry who met the inclusion criteria and were recruited using an appropriate sampling method (Convenient). Formal approval was obtained from the village authorities and received approval from the institution's ethics committee. A self-structured questionnaire was used to collect data during a face-to-face interview. Descriptive and inferential statistics were used to analyse the data.

**Result:** Out of a total of 140 women who were interviewed for the presence of abnormal vaginal discharge, 100 (71%) were found to possess abnormal discharge. The prevalence of discharge was discovered to be quite high. Most of the ladies had a whitish vaginal discharge (76%), 59% had odourless discharge and 43% of women experience cheesy/sticky in consistency of discharge. A majority of respondents (26%) attributed the cause to excessive body heat, 22% said it was due to eating hot food, and about 13% of women cited stress. The foremost coexisting/associated symptoms with vaginal discharge were itching, lower abdominal pain, and backache.

### Conclusion:

The stigma, shame, and embarrassment related to with any genital disorder deter many women and girls from seeking medical help. It must be identified and given great importance.

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**KEYWORDS:** Prevalence, vaginal discharge, perceived causes, associated symptoms, reproductive aged women

## INTRODUCTION

The menstrual cycle causes changes in normal physiological discharge. The discharge is clearer with a stretchable consistency around ovulation, and then becomes thicker and slightly yellow during the luteal phase. Normal healthy discharge does not have a strong odour and is not associated with symptoms

such as itching, redness, or swelling. [1] Vaginal discharge can increase during high oestrogen states like ovulation, the luteal phase, puberty, and pregnancy, as well as with oestrogen-based therapies like combined hormonal contraception and hormone-replacement therapy. 10% of those who present with

vaginal discharge have normal vaginal discharge. <sup>[2]</sup> Vaginal discharge is one of the most common gynaecological issues in women, especially during the reproductive stage. <sup>[3]</sup>

Changes in colour, consistency, volume, or odour indicate abnormal vaginal discharge, which may also include symptoms including itch, soreness, dysuria, pelvic pain, intermenstrual bleeding, or postcoital haemorrhage<sup>[4]</sup>. The most frequent reason of abnormal vaginal discharge is infection. 70% of all causes are associated with bacterial vaginosis (BV), vulvovaginal candidiasis (VVC), or trichomoniasis (TV) <sup>[5]</sup> Of the three causes listed, BV is the most prevalent and is responsible for up to fifty percent of infections <sup>[4]</sup>. RTIs come in three different forms: endogenous infections, which are caused by an overgrowth of bacteria typically found in women's genital tracts; iatrogenic infections, which are caused by subpar medical procedures (such as unsafe abortion or poor delivery techniques); and sexually transmitted diseases (STDs) and human immunodeficiency virus (HIV)<sup>[6]</sup>. Bacterial vaginosis (BV), one of the RTIs, is becoming more and more significant since it illustrates the dysbiotic state of the vaginal microbiota and makes people more vulnerable to other STIs. <sup>[7,8]</sup> The most common cause of fungal vulvo-vaginitis is candidial genital infection, and up to 60% of cases may have asymptomatic microbial colonisation. It is one of the most frequent causes of visits in clinical practise and affects women regularly during their reproductive years, leading to numerous consultations with an obstetrician or gynaecologist <sup>[9]</sup>.

Young age, low socioeconomic status, vaginal discharge in a prior pregnancy, depression, anaemia, threatened premature labour, urinary infection, and hospitalisation in the current pregnancy were the significant risk variables related <sup>[10]</sup>. Infertility, pelvic inflammatory illness, ectopic pregnancies, intestinal obstruction, abortion, cervical cancer, HIV transmission, and marital discord are all effects of RTIs. <sup>[11]</sup> A bigger percentage of RTIs go undetected and untreated, despite the fact that early detection and management lessen complications and long-term consequences. Gynecological chlamydial infections are asymptomatic and go unreported in about 70–80% of cases. <sup>[12]</sup> Female RTIs typically manifest as vaginitis or cervicitis in the lower genital tract and can cause symptoms like atypical vaginal discharge, genital pain, itching, and a burning sensation while urinating. The significant frequency of asymptomatic illness, however, presents a challenge to efficient management <sup>[13]</sup>. Even when symptoms do appear, they may be mistaken as RTIs because of how similarly they present to and are treated as a typical

physiological change <sup>[14]</sup>. Women should be encouraged to stay away from vaginal douching, tight-fitting synthetic garments, and local irritants such soap gels and perfumed items. <sup>[1]</sup> Treatment is delayed by cultural hurdles, a lack of knowledge about symptoms, a lack of privacy, the absence of a female doctor at the medical institution, the cost of care, social stigma, and anxiety about internal exams. The effective execution of preventative and control programmes is hampered by all of these obstacles. 15. In India, 11–18% of women in the reproductive age range self-report having RTI symptoms, according to nationally representative surveys. <sup>[16,17]</sup> In addition, women in rural India are more susceptible to RTI than women in metropolitan areas. <sup>[18]</sup>

There is a dearth of knowledge on the correlation between RTI and specific conditions in a rural area, despite the fact that numerous studies have been carried out to ascertain the incidence rate of RTIs. The current study, which exhaustively covers to establish the prevalence of Self-reported vaginal discharge, perceived causes and associated symptoms to fill this gap. Thus, study was designed to be undertaken in a rural location.

### Methodology

This community-based cross-sectional study was conducted with women of childbearing age (ages 15-45) in Kondangcheri Village. A door-to-door survey was conducted to recruit suitable participants. A sample of 140 women was interviewed for the presence of abnormal vaginal discharge in which 100 women meeting eligibility criteria were recruited using convenient sampling methods. In any woman of childbearing age with a chief complaint of abnormal vaginal discharge (abnormal texture and color, more frequent than usual), genital burning or itching, or burning or itching during urination in the past 3 months, those who understood Tamil/English and voluntarily consented to the study were included. Postmenopausal women, pregnant women, and women undergoing hysterectomy were excluded from the study. A detailed self-structured questionnaire was developed and the questionnaire consisted of three main parts - Part A - socio-demographic details: Age, marital status, religion, education level, occupation, income, family type, diet, related medical conditions. Part B Clinical variables: menstrual history (age of menarche, regular cycles, days of menstruation, pain during menstruation), marital and reproductive history (active marital (sexual history), reproductive history, delivery method, birth interval, method of contraception, history of abortion), and a final Part C questionnaire to assess the prevalence and pattern of abnormal vaginal discharge. Details of

menstrual hygiene, discharge details (duration, frequency, color, consistency, odor, discharge cause, discharge comorbidities, and current treatment for discharge) were collected. Notified written concerns were obtained from participants and recorded. Formal permission was obtained from the village authorities and approved by the institutional ethics committee. Data were collected using a face-to-face interview method using a self-structured questionnaire. Data were summarized in an Excel sheet and data were analyzed using SPSS 16 version software. Descriptive statistics are displayed in terms of mean and standard deviation. Data are displayed graphically using bar graphs. Chi-squared scores were used to assign prevalence to selected variables.

## RESULTS

### Section A: Characterisation of study participants

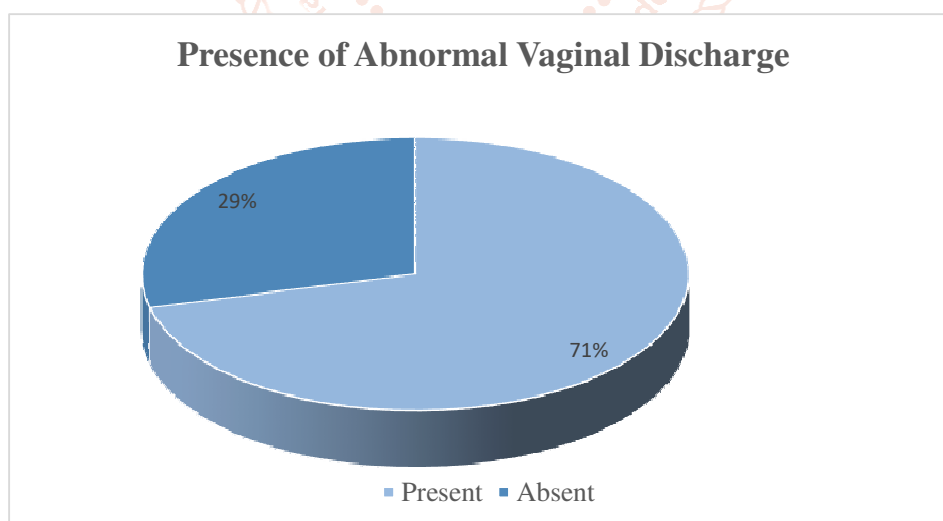
The current study included 100 women who presented with abnormal vaginal discharge. When compared to age groups, 20-30 year olds had a higher prevalence of abnormal vaginal discharge (55%). However, the 40-50 age group was reported to have the lowest number (11%). In terms of education, approximately 51.1% (51) of the study group had a secondary education. In terms of occupation and income, 36% were private employees, and 42% had a family income of less than \$10,000. In terms of religion, 57% were Christian. According to the type of family, 56% were joint families. In terms of dietary habits, the majority of participants (66% were non-vegetarians).

### Menstrual, Marital and Obstetric history among the study participants

The mean (standard deviation) age at menarche was 14.18 (1.3) years. The majority of the women in the study (62%) had no menstrual problems. The most common menstrual problems were dysmenorrhea (27%) and irregular menstrual cycles (11%). A sanitary napkin was the most commonly used material by women to absorb menstrual blood flow (76%). Only 24% of these women use a piece of cloth. The average marriage age was 18 years. Only twenty-six (26%) of the women were nulliparous, while seventy-four (74%) had at least two children. Normal vaginal delivery was found to be the most common mode of delivery (66; 66%), with caesarean section accounting for the least (44% of the population). The most common method of contraception was tubal sterilisation (68%).

### Assessment of Vaginal Discharge

100 (69%) of the 140 women interviewed for the presence of abnormal vaginal discharge were found to have a complaint of abnormal vaginal discharge. As illustrated in Figure 1, the prevalence of vaginal discharge was found to be high. According to a study conducted by Uwakwe et al. (2018), the overall prevalence rate of abnormal vaginal discharge among women was 240 (55.6%). [19] Similarly, study results similar to Patil and Thakur (2016) revealed that 136 (34%) of 400 respondents screened for the presence of abnormal vaginal discharge had abnormal vaginal discharge. [20]



According to table 1, the most common colour of discharge among women experiencing abnormal vaginal discharge was curdy white (76%), yellow (4%), grey (17%), red (2%) and brown (1%). In terms of odour, 59% of women reported odourless discharge, while 39% reported fishy odour. With respect to consistency of discharge, 43% of women experience cheesy/sticky discharge, 14% experience watery discharge, 17% experience frothy discharge, 20% experience thick discharge, and 6% experience thin discharge. According to duration, 49% of women have vaginal discharge for less than 6 months, while 51% have vaginal discharge for more than 6 months. According to study findings [19], the majority of abnormal vaginal discharge was white or creamy in colour 208 (86.7%), with close to half having a foul or fishy smell 119 (49.6%) and more than half

having a curdy consistency 126 (52.5%). According to study findings [20], the most common colour of discharge in women experiencing abnormal vaginal discharge was curdy white (42.6%), followed by yellowish white (36.8%) and white (16.2%). Only 4.4% of women described the colour as greyish white. 36% of women reported that their discharge was odorous. 80.1% of women reported sticky discharge, while 3.7% reported blood-tinged discharge. More than two-thirds, 69.85%, had been complaining of discharge for less than six months, with 17.64% have vaginal discharge for six months to a year. 12.51% of women reported discharge for more than a year.

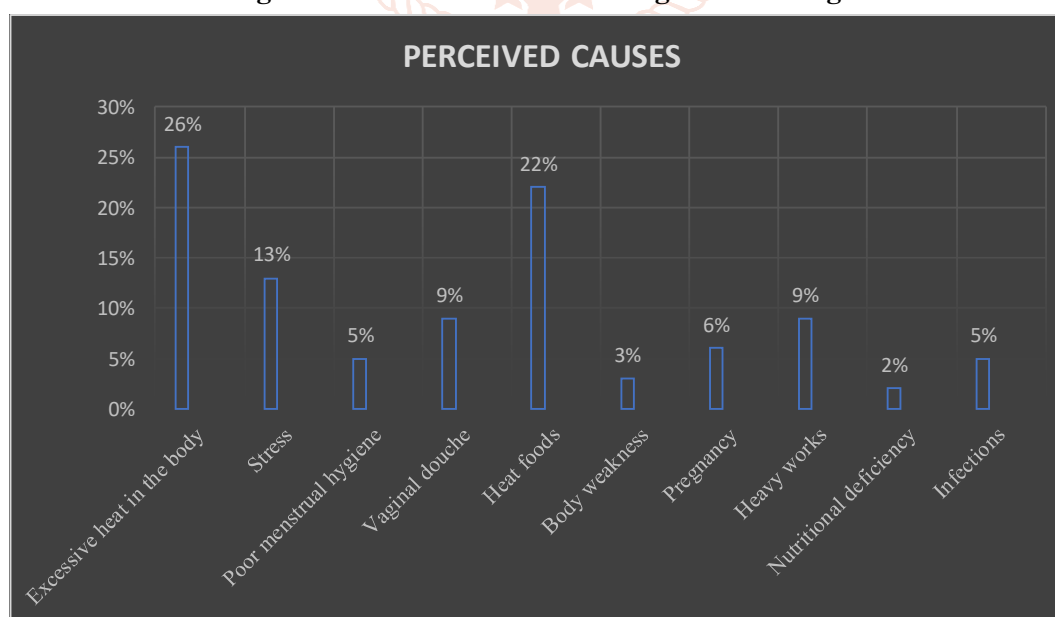
**Table 1: Distribution of Participants according to Characteristics of Abnormal vaginal discharge.**

Characteristics of Abnormal vaginal discharge	Frequency (n=100)	Percent (%)
<b>Colour</b>		
Curdy, Milky White	76	76%
Grey	17	17%
Yellow	4	4%
Red	2	2%
Brown	1	1%
<b>Odour</b>		
Fishy	39	39%
Foul	2	2%
odourless	59	59%
<b>Consistency</b>		
Cheesy/sticky	43	43%
watery	14	14%
frothy	17	17%
Thick	20	20%
Thin discharge	6	6%
<b>Duration</b>		
< 6months	49	49%
>6months	51	51%

#### Perceived Causes of Vaginal Discharge:

The majority of women (26%) blamed it on excessive body heat, 22% on eating hot food, 13% on stress, 5% on poor menstrual hygiene and infections, and 9% on heavy work and vaginal douching. Fewer women reported due to pregnancy, nutritional deficiency, and body weakness that Showed in Figure 2.

**Figure 2: Perceived Causes of Vaginal Discharge**



Similarly, findings from a study conducted by Ilankoon et al. (2019) revealed that heavy food consumption and body heat were the main reasons [21]. Furthermore, similar to the current study's findings, in another study



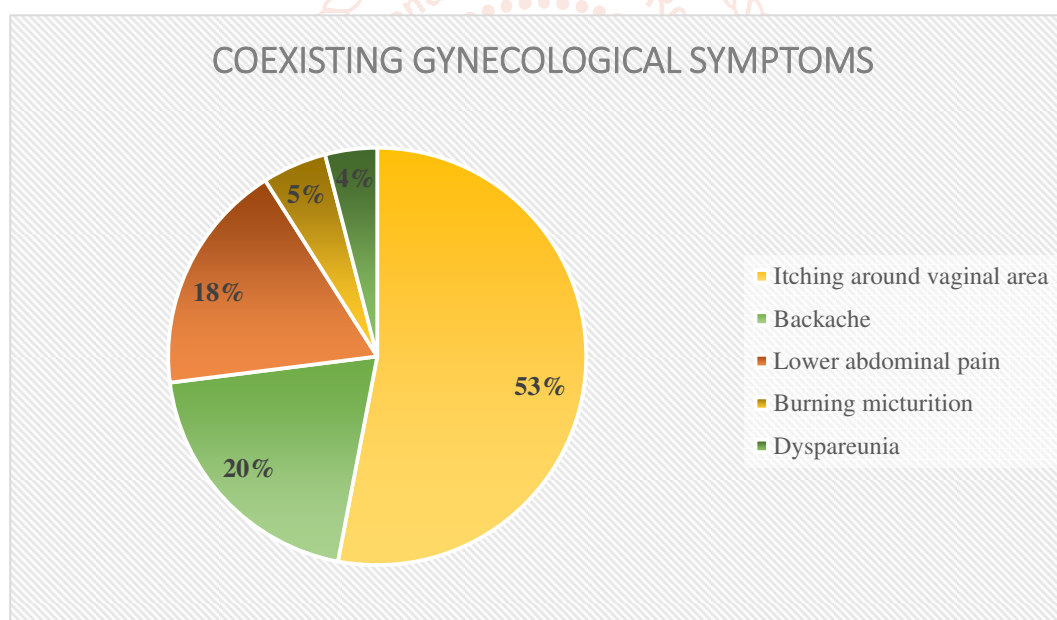
conducted in the United States, very few females reported infections as a cause of abnormal vaginal discharge. [22] Similarly, psychosocial factors are associated with abnormal vaginal discharge. [23]

### Associated symptoms of vaginal discharge

As shown in figure3, the most commonly reported symptoms were vaginal discharge (47%), vaginal itching (47%), lower abdominal pain (18%), back pain (20%), burning micturition (11%), and dyspareunia (4%). It is also comparable to the research of Rao PS et al [24]. Similarly, research findings similar to those of Edward (2021) [25] states that the most common symptom among the 153 symptomatic women was abnormal vaginal discharge (16.4%). Lower abdominal pain (10.95%), low back ache (8.76%), burning micturition (2.73%), genital ulcerations (2.19%), and dyspareunia (0.82%) were the other symptoms.

Also, a study [26] found that other symptoms associated with abnormal vaginal discharge included itchiness and scratching (n=135, 24.5%), lower abdominal pain (n=79, 14.4%), burning sensation (n=62, 11.3%), pain during intercourse (n=13, 2.4%), and backache (n=12, 2.2%). Likewise, Usharani and Swetha (2021) reported that itching was the most common associated symptom in 50.5% of cases, followed by pain abdomen in 45.5%, burning micturition in 45%, and dysuria in 15.5%. Backache was a less common complaint, occurring in 5% of cases. [27]

During periods, the majority of study participants (85%) took a bath. It was similar to the study [28], which stated that in terms of menstrual hygiene, nearly 100% of women took a bath daily during their periods. In this study, approximately 78.0% of the women washed their perineal area with soap and water after every bath. Similarly, many research studies revealed that the majority of women used water (75.8%) and a soapy water solution (17.9%) during vaginal discharge. Various materials were identified for douching, primarily with water, with water with soap being the second most commonly used product [29,30].



**Figure 3: Coexisting Gynaecological Symptoms**

### Association of vaginal discharge with selected demographic variables among the reproductive age group women

Educational level ( $p < 0.001$ ) and place of residence ( $p < 0.001$ ) were found to be significantly associated with abnormal vaginal discharge. Similarly, Patil and Thakur's study (2016) found a statistically significant relationship between age, education, family type, and the presence of abnormal vaginal discharge [20]

The limitation of our study is that no laboratory tests were performed to rule out an infectious aetiology of vaginal discharge.

### Conclusion

Women had a difficult time identifying vaginal discharge as a suspected symptom of reproductive tract infections. Adequate information about normal and abnormal vaginal discharge must be provided to women in order for them to receive early treatment for pathological vaginal discharge. Each patient who reports vaginal discharge should be extensively questioned, inspected, and appropriately investigated to rule out pathological discharge. Many cultural and social factors influence their health and how they perceive their health in the community. It is one of the most important challenges to overcome, yet it

continues to contribute significantly to the ill health of women. Nurturing awareness through health education programmes must be instilled in women from childhood, particularly during adolescence and motherhood. All women who have the correct information will share it with their parents and peer group. We may conclude that raising health awareness, maintaining personal cleanliness (such as menstrual and personal hygiene), and engaging in health-seeking behaviours will all help to lessen the issue of vaginal discharge.

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