

International Journal of Clinical Obstetrics and Gynaecology



ISSN (P): 2522-6614
ISSN (E): 2522-6622
© Gynaecology Journal
www.gynaecologyjournal.com
2025; 9(1): 181-184
Received: 25-12-2024
Accepted: 21-01-2025

Dr. Mukesh Kumar
Reproductive Biotechnology
Laboratory, MSJ Govt. P.G.
College, Bharatpur, Rajasthan,
India

Sunayana Singh
Reproductive Biotechnology
Laboratory, MSJ Govt. P.G.
College, Bharatpur, Rajasthan,
India

White discharge: A review

Mukesh Kumar and Sunayana Singh

DOI: <https://www.doi.org/10.33545/gynae.2025.v9.i1c.1582>

Abstract

White vaginal discharge is a common occurrence in women and can be either physiological or pathological. Normal discharge serves a protective role in maintaining vaginal health, while abnormal discharge may indicate infections such as bacterial vaginosis, yeast infections, trichomoniasis, or sexually transmitted infections (STIs). Factors such as hormonal changes, stress, vaginal atrophy in menopausal women, and allergic reactions can also contribute to variations in discharge. This review explores the causes, implications, and management strategies associated with white discharge, emphasizing the need for medical evaluation in cases of abnormal symptoms like odor, itching, or unusual consistency. Understanding the distinctions between normal and abnormal discharge is crucial for reproductive health, allowing for timely diagnosis and appropriate treatment to prevent complications. Furthermore, special attention is given to the phenomenon in menopausal and postmenopausal women, where decreased estrogen levels lead to changes in vaginal secretions and an increased risk of infections. Maintaining personal hygiene and seeking professional healthcare guidance remain essential measures in ensuring vaginal well-being.

Keywords: White vaginal discharge, bacterial vaginosis, yeast infection, trichomoniasis

Introduction

"White discharge" is a term often used to describe vaginal discharge that appears white or off-white in color. Vaginal discharge is a normal bodily function and plays a crucial role in maintaining vaginal health. The appearance, consistency, and quantity of vaginal discharge can vary throughout the menstrual cycle and can be influenced by hormonal changes, sexual arousal, stress, and other factors.

Here are some general points about vaginal discharge:

- 1. Normal vaginal discharge:** Normal vaginal discharge is usually clear to slightly white in color, and it may have a mild odor. It serves to cleanse the vagina, flush out dead cells and bacteria, and maintain a healthy pH balance ^[1].
- 2. Abnormal discharge:** Changes in the color, consistency, smell, or quantity of vaginal discharge might indicate an underlying issue. If the discharge becomes unusually thick, clumpy, greenish, yellowish, frothy, or has a strong foul odor, it could be a sign of infection or other problems ^[1, 2].
- 3. Possible causes of abnormal discharge:** Some common causes of abnormal vaginal discharge include bacterial vaginosis, yeast infections, trichomoniasis, and sexually transmitted infections (STIs) such as chlamydia, gonorrhea, or genital herpes ^[3, 4].
- 4. Consulting a healthcare provider:** If you are experiencing unusual or concerning vaginal discharge, it's essential to consult a healthcare provider. They can conduct an examination, take a medical history, and perform tests to identify the underlying cause and recommend appropriate treatment ^[1].
- 5. Personal hygiene:** Maintaining good personal hygiene, such as washing the genital area with mild soap and water and avoiding the use of douches or harsh products, can help maintain a healthy vaginal environment ^[1].

Remember, every individual is different, and what might be considered normal for one person may not be the same for another. If you have any concerns about your vaginal health or notice changes in your discharge, it's best to seek medical advice from a healthcare professional. They

Corresponding Author:
Dr. Mukesh Kumar
Reproductive Biotechnology
Laboratory, MSJ Govt. P.G.
College, Bharatpur, Rajasthan,
India

can provide personalized guidance based on your specific situation. White vaginal discharge can have various causes, and it's important to note that not all white discharge is abnormal. In fact, normal vaginal discharge can appear white or off-white in color^[5]. However, if the discharge is accompanied by other symptoms like itching, foul odor, or changes in consistency, it might indicate an underlying issue. Here are some potential causes of white discharge:

- 1. Normal secretions:** As part of the natural menstrual cycle, the cervix produces mucus that can appear white or creamy. This type of discharge is typically odorless and helps keep the vagina clean and lubricated^[3].
- 2. Yeast infection:** Candida, a type of yeast, can cause a yeast infection. The discharge is often thick, white, and cottage cheese-like in appearance. It may be accompanied by itching, redness, and irritation in the vaginal area^[3, 6].
- 3. Bacterial vaginosis:** Bacterial Vaginosis (BV) is a common vaginal infection caused by an imbalance of bacteria in the vagina. The discharge is usually white or grayish and may have a fishy odor^[7, 8].
- 4. Trichomoniasis:** Trichomoniasis is a Sexually Transmitted Infection (STI) caused by the parasite *Trichomonas vaginalis*. The discharge is often frothy, white, greenish, or yellowish and may have a strong odor. It can also cause itching and irritation^[3, 9].
- 5. Sexually Transmitted Infections (STIs):** Other STIs like chlamydia and gonorrhea can cause white or cloudy discharge along with other symptoms. However, these infections may not always present with noticeable discharge^[8, 9].
- 6. Vaginal atrophy:** In postmenopausal women, decreased estrogen levels can lead to thinning of the vaginal walls and reduced lubrication, resulting in white discharge^[10].
- 7. Allergic reaction or irritation:** Certain soaps, detergents, fabrics, or personal care products can cause an allergic reaction or irritation in the vaginal area, leading to white discharge^[11].
- 8. Stress or hormonal changes:** Stress and hormonal fluctuations, such as those occurring during pregnancy, can affect vaginal secretions and lead to white discharge^[11].

Remember, if you are experiencing white discharge along with other concerning symptoms like itching, odor, or discomfort, it's essential to consult a healthcare provider for proper evaluation and diagnosis. They can determine the underlying cause and recommend appropriate treatment if needed.

International status of white discharge in women

As of last update in September 2021, there is no specific international status or global classification for white discharge in women as a standalone medical condition or issue. White vaginal discharge is a symptom that can have various underlying causes, as mentioned earlier. These causes may include normal physiological changes, infections, hormonal imbalances, or other conditions affecting the female reproductive system^[12].

Instead of categorizing white discharge as a standalone medical condition, healthcare professionals focus on diagnosing and treating the underlying cause leading to the symptom. For example:

- 1. Infections:** When white discharge is associated with infections like yeast infections (caused by *Candida*) or bacterial vaginosis, healthcare providers would diagnose and treat these infections accordingly^[12, 13].
- 2. Sexually Transmitted Infections (STIs):** If the white discharge is caused by STIs like trichomoniasis, chlamydia,

or gonorrhea, appropriate treatment and management would be provided for the specific infection^[9, 13].

- 3. Hormonal changes:** In cases where hormonal changes are the cause of white discharge (e.g., during the menstrual cycle or menopause), management might involve addressing the underlying hormonal imbalance^[9, 13].
- 4. Other causes:** For other potential causes of white discharge, such as cervical or uterine conditions, allergies, or irritation, healthcare professionals would evaluate and treat the specific condition^[3, 13].

It's important for women to seek medical attention if they experience any abnormal vaginal discharge or other symptoms, as it could be an indication of an underlying health issue. Healthcare providers can perform examinations, tests, and assessments to determine the cause and provide appropriate care. It is important to note that medical knowledge and guidelines might have evolved since my last update. Therefore, it is always best to refer to current medical sources and consult healthcare professionals for the most up-to-date information.

Is white discharge indicative of abnormal female reproductive system

White vaginal discharge can be normal or abnormal, depending on various factors. As mentioned earlier, normal vaginal discharge can be white or off-white in color and is usually odorless. It serves to cleanse the vagina, flush out dead cells and bacteria, and maintain a healthy pH balance^[14]. It often changes in consistency and quantity throughout the menstrual cycle.

Abnormal white discharge, on the other hand, may be indicative of an underlying issue with the female reproductive system or vaginal health. Abnormal white discharge might have the following characteristics:

- 1. Unusual consistency:** Abnormal white discharge may be clumpy, thick, or frothy, rather than the normal clear to slightly white and watery discharge.
- 2. Foul odor:** While normal discharge might have a mild odor, abnormal white discharge can have a strong, unpleasant, fishy, or foul smell. This could be indicative of an infection or other issues.
- 3. Accompanied by other symptoms:** Abnormal white discharge is often associated with symptoms like itching, redness, irritation, burning sensation during urination, or discomfort in the vaginal area.
- 4. Changes in color:** In some cases, abnormal white discharge may appear yellowish or greenish, which can be a sign of infection^[15, 16].

Common underlying causes of abnormal white discharge include:

- **Yeast infection (Vulvovaginal candidosis):** Caused by an overgrowth of *Candida* yeast in the vagina^[17, 19].
- **Bacterial vaginosis:** An imbalance of the normal vaginal bacteria^[18, 19].
- **Trichomoniasis:** A sexually transmitted infection caused by the parasite *Trichomonas vaginalis*^[20].
- **Sexually Transmitted Infections (STIs):** Infections such as chlamydia or gonorrhea^[21].
- **Cervical or uterine conditions:** Certain conditions affecting the cervix or uterus might cause abnormal discharge.

It's important for women to pay attention to any changes in their vaginal discharge and seek medical evaluation if they experience abnormal discharge or accompanying symptoms. While not

every case of abnormal discharge indicates a severe problem, it's essential to identify and treat any underlying issues to maintain vaginal health and overall well-being. A healthcare provider can conduct an examination, perform tests if necessary, and provide appropriate treatment based on the specific diagnosis.

White discharge phenomenon in menopausal and post-menopausal women

During menopause and the post-menopausal phase, hormonal changes occur in a woman's body, specifically a decline in estrogen levels. These hormonal changes can have various effects on the female reproductive system, including the vaginal environment and discharge [22]. Let's explore how white discharge phenomenon is related to menopausal and post-menopausal women:

- 1. Decreased estrogen levels:** Estrogen is a hormone responsible for maintaining the thickness and elasticity of the vaginal tissues and promoting the production of vaginal secretions. During menopause, as the ovaries produce less estrogen, the vaginal tissues can become thinner, drier, and less lubricated [23].
- 2. Vaginal atrophy:** Vaginal atrophy, also known as atrophic vaginitis, is a common condition that occurs in menopausal and post-menopausal women due to the lack of estrogen. It refers to the thinning, inflammation, and drying of the vaginal walls. Vaginal atrophy can lead to changes in the vaginal discharge [23, 24].
- 3. Changes in vaginal discharge:** As a result of reduced estrogen levels and vaginal atrophy, menopausal and post-menopausal women may experience changes in their vaginal discharge. The normal clear to slightly white discharge that is common in pre-menopausal women may become thinner, less in quantity, and more watery in nature [25].
- 4. Decreased lubrication:** The decline in estrogen levels can also lead to decreased natural lubrication in the vagina, making sexual intercourse potentially uncomfortable or painful for some women [23, 25].
- 5. Risk of infections:** With vaginal atrophy and changes in the vaginal environment, menopausal and post-menopausal women may be at a slightly higher risk of developing vaginal infections, such as yeast infections and bacterial vaginosis [23, 25].
- 6. Management:** To alleviate the symptoms associated with changes in discharge and vaginal discomfort, healthcare providers may recommend the use of water-based lubricants during sexual activity. Additionally, topical estrogen creams or Hormone Replacement Therapy (HRT) might be prescribed to help with vaginal atrophy and related symptoms [26, 27].

It's crucial for menopausal and post-menopausal women to prioritize their vaginal health and seek medical advice if they experience any bothersome symptoms, such as unusual discharge, itching, discomfort, or pain during intercourse. A healthcare provider can provide personalized recommendations and treatment options to manage these changes and promote vaginal health during this life stage.

References

1. Lin YP, Chen WC, Cheng CM, Shen CJ. Vaginal pH value for clinical diagnosis and treatment of common vaginitis. *Diagnostics*. 2021;11(11).
2. Sim M, Logan S, Goh LH. Vaginal discharge: evaluation and management in primary care. *Singapore Med J*. 2020 Jun;61(6):297-301.
3. Rao VL, Mahmood T. Vaginal discharge. *Obstet Gynaecol Reprod Med*. 2020;30(1):11-18.
4. NHS Oxfordshire Clinical Commissioning Group. Investigation and management of vaginal discharge in adult women [Internet]. 2020 [cited 2025 Feb 28]. Available from: <https://www.ouh.nhs.uk/microbiology/diagnostic-tests/atoz/documents/discharge.pdf>
5. Kairys N, Garg M. *Bacterial vaginosis*. StatPearls Publishing, 2023.
6. Jeanmonod R, Jeanmonod D. *Vaginal candidiasis*. StatPearls Publishing, 2023.
7. Greenbaum S, Greenbaum G, Moran-Gilad J, Weintraub AY. Ecological dynamics of the vaginal microbiome in relation to health and disease. *Am J Obstet Gynecol*. 2019 Apr;220(4):324-335.
8. Russo R, Karadja E, De Seta F. Evidence-based mixture containing *Lactobacillus* strains and lactoferrin to prevent recurrent bacterial vaginosis: a double-blind, placebo-controlled, randomized clinical trial. *Benef Microbes*. 2019 Feb 8;10(1):19-26.
9. Kissinger P. *Trichomonas vaginalis*: a review of epidemiologic, clinical and treatment issues. *BMC Infect Dis*. 2015;15:307.
10. Bleibel B, Nguyen H. Vaginal atrophy: in postmenopausal women, decreased estrogen levels can lead to thinning of the vaginal walls and reduced lubrication, resulting in white discharge. StatPearls Publishing, 2023.
11. Moghadam FH, Tansaz M, Aminimoghaddam S, Hajimehdipoor H, Hosseini H. Vaginitis: Etiology and role of oxidative stress, inflammation and antioxidants therapy. *Reprod Med Int*. 2021;4(4):1.
12. Xie Y, Zhou Q, Chen L, Sui L. Pathology behind constant watery vaginal discharge: a rare case of uterine cervical minimal deviation adenocarcinoma. *Cancer Manag Res*. 2021;13:-.
13. Dorjey Y, Wangmo D, Tshomo D. Assessment of excessive vaginal discharge among women who presented to Phuentsholing General Hospital: a hospital-based study. *Health Serv Rep*. 2022;5(5):e793.
14. Lehtoranta L, Ala-Jaakkola R, Laitila A, Maukonen J. Healthy vaginal microbiota and influence of probiotics across the female lifespan. *Front Microbiol*. 2022;13.
15. Faham R. Abnormal vaginal discharge. *BMJ*. 2013;347.
16. Sim M, Logan S, Goh LH. Vaginal discharge: evaluation and management in primary care. *Singapore Med J*. 2020;61(6):297-301.
17. Sobel JD. Vulvovaginal candidosis. *Lancet*. 2007;369:1961-71. DOI: 10.1016/S0140-6736(07)60917-9.
18. Donders GG, Van Calsteren K, Bellen G, Reybrouck R, Van den Bosch T, Riphagen I, *et al*. Predictive value for preterm birth of abnormal vaginal flora, bacterial vaginosis and aerobic vaginitis during the first trimester of pregnancy. *BJOG*. 2009;116:1315-1324.
19. Superti F, De Seta F. Warding off recurrent yeast and bacterial vaginal infections: lactoferrin and lactobacilli. *Microorganisms*. 2020;8(1):130.
20. Kissinger PJ, Gaydos CA, Seña AC, McClelland RS, Soper D, Secor WE, *et al*. Diagnosis and management of *Trichomonas vaginalis*: summary of evidence reviewed for the 2021 Centers for Disease Control and Prevention sexually transmitted infections treatment guidelines. *Clin Infect Dis*. 2022;74(2):S152-S161.
21. Deese J, Pradhan S, Goetz H, Morrison C. *Contraceptive*

- use and the risk of sexually transmitted infection: systematic review and current perspectives. *Open Access J Contracept*. 2018;9:91-112.
22. Kim JM, Jin Y. Probiotics in the prevention and treatment of postmenopausal vaginal infections: review article. *J Menopausal Med*. 2017;23(3):139-145.
 23. Alvisi S, Gava G, Orsili I, Giacomelli G, Baldassarre M, Seracchioli R, *et al*. Vaginal health in menopausal women. *Medicina (Kaunas)*. 2019;55(10):615.
 24. Cagnacci A, Xholli A, Sclauzero M, Venier M, Palma F, Gambacciani M. Vaginal atrophy across the menopausal age: results from the ANGEL study. *Climacteric*. 2019;22:85-89.
 25. Gandhi J, Chen A, Dagur G, Suh Y, Smith N, Cali B, *et al*. Genitourinary syndrome of menopause: an overview of clinical manifestations, pathophysiology, etiology, evaluation, and management. *Am J Obstet Gynecol*. 2016;215:704-711.
 26. Notelovitz M. Postmenopausal tibolone therapy: biologic principles and applied clinical practice. *MedGenMed*. 2007;9:2.
 27. The North American Menopause Society (NAMS) Hormone Therapy Position Statement Advisory Panel. The 2017 hormone therapy position statement of the North American Menopause Society. *Menopause*. 2017;24:728-753.
 28. Singh K, editor. *Integrated approach to obstetrics and gynaecology*. New Jersey: World Scientific, 2016.
 29. Sim M, Logan S, Goh LH. Vaginal discharge: evaluation and management in primary care. *Singapore Med J*. 2020;61(6):297-301.
 30. Rao VL, Mahmood T. Vaginal discharge. *Obstet Gynaecol Reprod Med*. 2020;30:11-18.
 31. NHS Oxfordshire Clinical Commissioning Group. Investigation and management of vaginal discharge in adult women [Internet]. [Accessed 2020 May 13]. Available from: <https://www.ouh.nhs.uk/microbiology/diagnostic-tests/atoz/documents/discharge.pdf>
 32. Kairys N, Garg M. *Bacterial vaginosis*. StatPearls Publishing, 2023.
 33. Rao VL, Mahmood T. Vaginal discharge. *Obstet Gynaecol Reprod Med*. 2020;30(1):11-18.
 34. Jeanmonod R, Jeanmonod D. *Vaginal candidiasis*. StatPearls Publishing, 2023.
 35. Greenbaum S, Greenbaum G, Moran-Gilad J, Weintraub AY. Ecological dynamics of the vaginal microbiome in relation to health and disease. *Am J Obstet Gynecol*. 2019;220(4):324-335.
 36. Russo R, Karadja E, De Seta F. Evidence-based mixture containing *Lactobacillus* strains and lactoferrin to prevent recurrent bacterial vaginosis: a double-blind, placebo-controlled, randomized clinical trial. *Benef Microbes*. 2019;10(1):19-26.
 37. Kissinger P. *Trichomonas vaginalis*: a review of epidemiologic, clinical and treatment issues. *BMC Infect Dis*. 2015;15:307.
 38. Deese J, Pradhan S, Goetz H, Morrison C. Contraceptive use and the risk of sexually transmitted infection: systematic review and current perspectives. *Open Access J Contracept*. 2018;9:91-112.
 39. Bleibel B, Nguyen H. Vaginal atrophy: in postmenopausal women, decreased estrogen levels can lead to thinning of the vaginal walls and reduced lubrication, resulting in white discharge. StatPearls Publishing, 2023.
 40. Xie Y, Zhou Q, Chen L, Sui L. Pathology behind constant watery vaginal discharge: a rare case of uterine cervical minimal deviation adenocarcinoma. *Cancer Manag Res*. 2021;13.
 41. Moghadam FH, Tansaz M, Aminimoghaddam S, Hajimehdipoor H, Hosseini H. Vaginitis: etiology and role of oxidative stress, inflammation, and antioxidants therapy. *Reprod Med Int*. 2021;4(1):014.
 42. Dorjey Y, Wangmo D, Tshomo D. Assessment of excessive vaginal discharge among women who presented to Phuentsholing General Hospital: a hospital-based study. *Health Serv Rep*. 2022;5(5):e793. DOI:10.1002/hsr2.793
 43. Rao VL, Mahmood T. Vaginal discharge. *Obstet Gynaecol Reprod Med*. 2020;30(1):11-18.
 44. Faham R. Abnormal vaginal discharge. *BMJ*. 2013;347.
 45. Sim M, Logan S, Goh LH. Vaginal discharge: evaluation and management in primary care. *Singapore Med J*. 2020;61(6):297-301.
 46. Kim JM, Jin Y, Park. Probiotics in the prevention and treatment of postmenopausal vaginal infections: review article. *J Menopausal Med*. 2017;23(3):139-145.
 47. Alvisi S, Gava G, Orsili I, Giacomelli G, Baldassarre M, Seracchioli R, Meriggola MC. Vaginal health in menopausal women. *Medicina (Kaunas)*. 2019;55(10):615.
 48. Cagnacci A, Xholli A, Sclauzero M, Venier M, Palma F, Gambacciani M *et al*. Vaginal atrophy across the menopausal age: results from the ANGEL study. *Climacteric*. 2019;22:85-89.
 49. Gandhi J, Chen A, Dagur G, Suh Y, Smith N, Cali B, Khan SA *et al*. Genitourinary syndrome of menopause: an overview of clinical manifestations, pathophysiology, etiology, evaluation, and management. *Am J Obstet Gynecol*. 2016;215:704-711.
 50. Notelovitz M. Postmenopausal tibolone therapy: biologic principles and applied clinical practice. *Med Gen Med*. 2007;9:2.
 51. The NAMS 2017 Hormone Therapy Position Statement Advisory Panel. The 2017 hormone therapy position statement of the North American Menopause Society. *Menopause*. 2017;24:728-753.

How to Cite This Article

Kumar M, Singh S. White discharge: A review. *International Journal of Clinical Obstetrics and Gynaecology*. 2025;9(1):181-184.

Creative Commons (CC) License

This is an open-access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.