

Hygienic Challenges in Women's Health: An Overview of Vaginal Discharge and Related Conditions

Kiran Dudhat

Department of Medical and Biological Foundations of Sports and Physical Rehabilitation, The Petro Mohyla Black Sea State University, Nikolaev, Ukraine.

***Corresponding Author:** Kiran Dudhat, 1School of Pharmacy, RK University, Kasturbadham, Rajkot, Gujarat- 360020, India.

Received date: February 16, 2024; **Accepted date:** March 15, 2024; **Published date:** March 28, 2024

Citation: Kiran Dudhat, (2024), Hygienic Challenges in Women's Health: An Overview of Vaginal Discharge and Related Conditions, *J. Women Health Care and Issues*, 7(3); DOI:10.31579/2642-9756/196

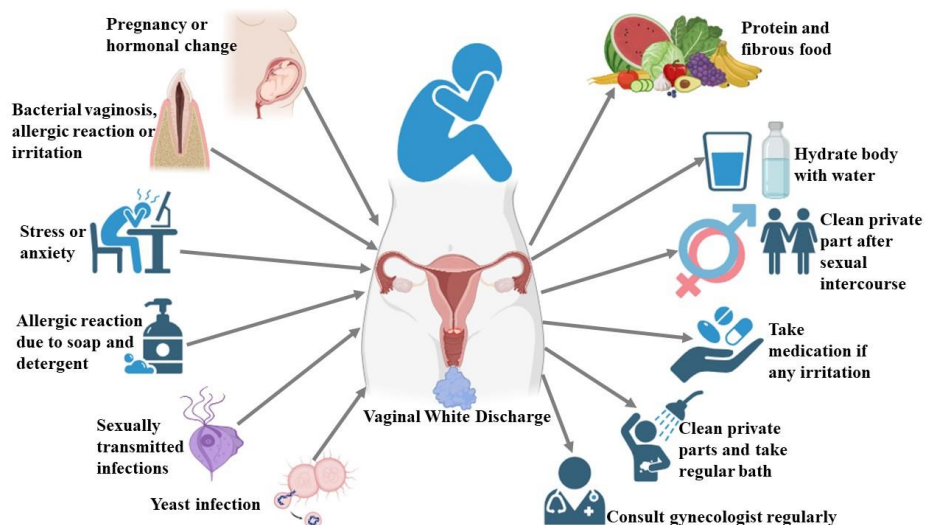
Copyright: © 2024, Kiran Dudhat. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

Women face numerous personal hygiene challenges affecting their comfort, health, and confidence, with vaginal odor being a common concern stemming from factors like poor hygiene practices and bacterial imbalances. Yeast infections, characterized by itching, burning, and unusual discharge, are prevalent due to yeast overgrowth. Urinary tract infections (UTIs) cause discomfort and pain during urination due to bacterial invasion. Menstrual hygiene issues encompass odor management and infection risks if sanitary products aren't changed regularly. Ingrown hairs post-shaving cause irritation. Bacterial vaginosis, marked by a fishy odor and abnormal discharge, challenges many women. Urinary incontinence, genital itching, and vulvovaginal irritation are additional concerns. Stress or anxiety may exacerbate vaginal discomfort. Maintaining good hygiene practices, including regular bathing and safe sex, is crucial for preventing many of these issues. Seeking medical attention for persistent symptoms ensures proper diagnosis and treatment, promoting overall well-being. Overall, prioritizing vaginal health through proper hygiene practices, regular check-ups, and timely treatment can promote women's overall well-being and quality of life. By addressing personal hygiene challenges effectively, women can maintain confidence, comfort, and optimal vaginal health throughout their lives.

Key words: women's hygiene; vaginal white discharge; yeast infections; menstrual hygiene

Graphical Abstract



Pathophysiological Insights into Vaginal White Discharge

Introduction

Women commonly face a range of personal hygiene problems that can impact their comfort, health, and confidence. One prevalent issue is vaginal odor, often stemming from factors like inadequate hygiene practices, sweat buildup, or imbalances in vaginal flora such as bacterial vaginosis [1]. Yeast infections, characterized by itching, burning, and unusual discharge, are another frequent concern, resulting from overgrowth of yeast in the vagina. Urinary tract infections (UTIs) are also common, causing discomfort, frequent urination, and pain during urination, often triggered by bacteria entering the urinary tract [2]. Menstrual hygiene problems are significant, encompassing issues like odor management, discomfort, and the risk of infections, particularly if sanitary products aren't changed regularly. Ingrown hairs, especially after shaving or waxing, can cause irritation and inflammation in the bikini area. Additionally, bacterial vaginosis, marked by a fishy odor and abnormal discharge, poses challenges for many women due to disruptions in vaginal bacteria balance. Urinary incontinence, characterized by involuntary urine leakage, is another concern, affecting women due to factors like childbirth or age-related changes. Genital itching, often caused by infections, allergies, or skin conditions, can lead to discomfort and irritation. Vulvovaginal irritation may occur due to various factors, including harsh hygiene products or tight clothing, exacerbating discomfort in the genital area [3, 4]. Lastly, sexually transmitted infections (STIs) present significant hygiene challenges, manifesting in symptoms like itching, burning, and abnormal discharge. Maintaining good personal hygiene practices, such as regular bathing, wearing breathable underwear, practicing safe sex, and using gentle, pH-balanced products, is crucial for preventing many of these issues. However, seeking prompt medical attention for persistent symptoms is essential to ensure proper diagnosis and treatment, promoting women's overall health and well-being [5].

Common personal hygiene problems experienced by women

Vaginal Odor

Vaginal odor is a common concern for women and can arise from various factors. Poor hygiene practices, sweat accumulation, or an imbalance in vaginal flora, such as bacterial vaginosis, can contribute to this issue. Bacterial vaginosis occurs when there's an overgrowth of harmful bacteria in the vagina, leading to a distinct fishy odor. Maintaining proper hygiene, including regular bathing with mild, unscented soap and wearing breathable cotton underwear, can help alleviate vaginal odor. If the odor persists or is accompanied by unusual discharge or discomfort, it's essential to consult a healthcare professional for further evaluation and treatment [6, 7].

Yeast Infections (Candidiasis)

Yeast infections, also known as candidiasis, are caused by an overgrowth of yeast in the vaginal area. This can result in symptoms such as itching, burning, and abnormal discharge, typically resembling cottage cheese. Yeast infections can occur due to factors like hormonal changes, antibiotic use, or weakened immune systems. Maintaining good hygiene practices, avoiding irritants like scented hygiene products or tight-fitting clothing, and consuming a balanced diet rich in probiotics can help prevent yeast infections. Over-the-counter antifungal medications or prescription treatments from a healthcare provider are typically used to treat yeast infections effectively [7, 8].

Urinary Tract Infections (UTIs)

Urinary tract infections (UTIs) are bacterial infections that commonly affect women. They occur when bacteria enter the urinary tract and multiply, leading to symptoms such as frequent urination, burning sensation during urination, and cloudy or bloody urine. UTIs can occur due to factors like inadequate hygiene practices, sexual activity, or underlying health conditions. Drinking plenty of water, urinating after sexual activity, and maintaining good genital hygiene can help prevent UTIs. Treatment usually involves antibiotics prescribed by a healthcare professional, along with symptom management strategies such as pain relievers and increased fluid intake [9, 10].

Menstrual Hygiene Issues

Menstrual hygiene is a crucial aspect of women's health during menstruation. Common problems include discomfort, odor, and the risk of infections if proper hygiene practices are not followed. Using menstrual hygiene products such as pads, tampons, or menstrual cups, and changing them regularly is essential to prevent odor and infections [11]. Additionally, practicing good genital hygiene, including washing the external genital area with water and mild soap, can help maintain cleanliness and reduce the risk of irritation or infection during menstruation. If menstrual hygiene issues persist or worsen, it's important to seek guidance from a healthcare professional for personalized advice and treatment options [12].

White vaginal discharge

White vaginal discharge is a common concern for many women and can be indicative of various underlying factors. This discharge is typically milky or creamy in consistency and may vary in amount throughout the menstrual cycle. While some degree of white discharge is normal and serves the purpose of maintaining vaginal lubrication and pH balance, excessive or abnormal discharge may signal an underlying issue. One common cause of increased white discharge is a yeast infection, also known as candidiasis [13]. Yeast infections occur when there's an overgrowth of yeast in the vagina, leading to symptoms such as itching, burning, and a thick, white discharge resembling cottage cheese. Another potential cause of white discharge is bacterial vaginosis, a condition characterized by an imbalance in vaginal bacteria. In bacterial vaginosis, harmful bacteria outnumber the beneficial ones, resulting in symptoms like a thin, grayish-white discharge with a fishy odor. Additionally, sexually transmitted infections (STIs) such as trichomoniasis or gonorrhea can cause white or yellowish discharge along with other symptoms like itching, burning, or pain during urination [7, 14]. Hormonal changes, such as those occurring during pregnancy or menopause, can also lead to changes in vaginal discharge, including an increase in white discharge. Poor hygiene practices, such as wearing tight, non-breathable clothing or using harsh soaps or douches, can disrupt the natural balance of vaginal flora and contribute to abnormal discharge. While some causes of white discharge may resolve on their own or with simple interventions such as over-the-counter antifungal medications for yeast infections, it's essential for women experiencing persistent or bothersome symptoms to seek evaluation and treatment from a healthcare professional. Proper diagnosis is crucial for determining the underlying cause of white discharge and implementing appropriate management strategies to promote vaginal health and overall well-being.

Causes of Vaginal white discharge

White vaginal discharge can be caused by various factors, including the normal vaginal secretions. It's common for women to have white or clear

vaginal discharge, which helps to maintain vaginal health by flushing out bacteria and dead cells. This discharge can vary in consistency and amount throughout the menstrual cycle [15]. But sometimes vaginal discharge happened due to infections and other causes as mentioned below.

Yeast infections

One of the most common causes of white vaginal discharge is a yeast infection, also known as candidiasis. It is usually accompanied by itching, redness, and swelling of the vulva. Yeast infections, caused by an overgrowth of the fungus *Candida*, are among the most prevalent causes of white vaginal discharge. This discharge is often described as thick, resembling cottage cheese, and may be accompanied by itching, irritation, and redness of the vulva. Factors such as antibiotic use, hormonal changes, diabetes, and a weakened immune system can contribute to the development of yeast infections. While they are not typically considered sexually transmitted infections, they can be transmitted through sexual activity. Treatment usually involves antifungal medications in the form of creams, suppositories, or oral tablets, prescribed based on the severity of the infection [16].

Bacterial vaginosis

Bacterial vaginosis occurs when there's an imbalance in the bacteria normally found in the vagina. While BV typically presents with a thin, grayish-white discharge, it can sometimes appear white. Bacterial vaginosis (BV) is a prevalent gynecological condition characterized by an imbalance in the vaginal microbiota, with an overgrowth of harmful bacteria such as *Gardnerella vaginalis*. While BV typically presents with a thin, grayish-white vaginal discharge, it may also appear white in some cases. This discharge is often accompanied by a fishy odor, especially after sexual intercourse or during menstruation. Risk factors for BV include douching, multiple sexual partners, and smoking. While BV is not usually associated with serious complications, it can increase the risk of pelvic inflammatory disease and adverse pregnancy outcomes. Treatment typically involves antibiotics prescribed by a healthcare provider based on the severity of symptoms [17, 18].

Sexually transmitted infections

Sexually transmitted infections (STIs) encompass a range of infectious diseases transmitted through sexual contact. Certain STIs, such as trichomoniasis and gonorrhea, can cause white or grayish discharge in addition to other symptoms like itching, burning, or pain during urination or sex. Certain infections such as trichomoniasis and gonorrhea can cause white or grayish discharge in addition to other symptoms like itching, burning, or pain during urination or sex. It's crucial to note that symptoms can vary widely depending on the specific STI involved and individual factors [19, 20]. Early detection and treatment of STIs are essential to prevent complications and reduce transmission rates, underscoring the importance of regular STI testing and safe sexual practices.

Hormonal changes

Hormonal fluctuations, such as those that occur during pregnancy, menopause, or while taking hormonal contraceptives, can sometimes lead to changes in vaginal discharge, including a white color. While white vaginal discharge is commonly associated with hormonal fluctuations, it's typically not the most prominent symptom. During ovulation, for example, cervical mucus production increases, resulting in a clear and stretchy discharge

resembling egg whites. Similarly, hormonal changes during pregnancy can lead to increased vaginal discharge, which may appear white or milky in color [21, 22]. While hormonal changes are a normal part of a woman's reproductive cycle, any significant or concerning changes in vaginal discharge should be evaluated by a healthcare professional.

Allergic reactions or irritants

Certain products, such as scented soaps, detergents, or latex condoms, can irritate the vagina and cause abnormal discharge, including white discharge. Allergic reactions or irritants can provoke changes in vaginal discharge, with white discharge being a potential manifestation. Exposure to certain products, such as scented soaps, detergents, feminine hygiene products, or latex condoms, can irritate the delicate tissues of the vagina, leading to inflammation and increased discharge. This discharge may be white or cloudy in appearance and may be accompanied by itching, redness, or swelling of the vulva [23, 24]. Identifying and avoiding the specific allergen or irritant is essential in managing these symptoms. Consulting a healthcare provider can help pinpoint the cause of the allergic reaction or irritation and provide appropriate treatment recommendations.

Stress or anxiety

Psychological factors can sometimes lead to changes in vaginal discharge due to hormonal changes. Stress or anxiety can sometimes lead to changes in vaginal discharge, although it's not typically the most common cause. Psychological factors can influence hormone levels, which in turn may affect vaginal secretions. While white vaginal discharge is not directly caused by stress or anxiety, heightened stress levels can disrupt the body's natural balance, potentially leading to alterations in vaginal discharge consistency or volume [25, 26]. It's essential to note that stress-related changes in vaginal discharge are usually temporary and resolve once stress levels decrease.

Diagnosis of Vaginal white Discharge

The diagnosis of vaginal white discharge, clinically known as leukorrhea, involves a comprehensive assessment encompassing medical history, physical examination, laboratory tests, and sometimes imaging studies to ascertain the underlying cause accurately. The initial step in diagnosing vaginal discharge involves obtaining a thorough medical history from the patient, focusing on the onset, duration, characteristics, associated symptoms, recent sexual activity, menstrual history, contraceptive use, medication history, and any potential risk factors for sexually transmitted infections (STIs) or other gynecological conditions. A comprehensive physical examination follows, including a pelvic examination to assess the external genitalia, vaginal walls, cervix, and any abnormal vaginal discharge. During the pelvic examination, a speculum may be used to visualize the vaginal canal and cervix, enabling the healthcare provider to collect samples for laboratory testing, such as vaginal swabs or cervical cultures [27, 28]. Laboratory tests play a crucial role in diagnosing the underlying cause of vaginal discharge. Microscopic examination of vaginal secretions, commonly performed using a wet mount preparation, allows for the identification of microbial pathogens, such as *Candida* species (yeast), *Trichomonas vaginalis* (trichomoniasis), or clue cells indicative of bacterial vaginosis. Additionally, pH testing of vaginal secretions can help differentiate between various etiologies, with a pH greater than 4.5 suggestive of bacterial vaginosis. In cases where sexually transmitted infections (STIs) are suspected, further testing may be warranted, including nucleic acid amplification tests (NAATs) or polymerase chain reaction

(PCR) assays to detect pathogens such as *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, or *Trichomonas vaginalis* [29, 30]. Depending on the clinical presentation and suspected etiology, additional diagnostic modalities may be employed. For instance, imaging studies such as transvaginal ultrasound may be indicated to evaluate pelvic anatomy or identify structural abnormalities contributing to vaginal discharge. In conclusion, the diagnosis of vaginal white discharge requires a systematic approach combining medical history, physical examination, and laboratory testing to accurately identify the underlying cause [30, 31]. Timely and accurate diagnosis is essential for implementing appropriate treatment strategies and promoting optimal vaginal health and overall well-being.

Pharmacology of White vaginal discharge

White vaginal discharge, also known as leukorrhea, can be influenced by various pharmacological factors, including medications that affect hormonal balance, vaginal flora, or inflammation. It's important for healthcare providers to conduct a thorough assessment to identify the underlying cause of white vaginal discharge before initiating pharmacological treatment [32]. Proper diagnosis ensures that appropriate medications are prescribed, optimizing treatment outcomes and promoting vaginal health. Here's a brief overview of the pharmacology related to white vaginal discharge:

Antifungal Medications

In cases where white discharge is caused by a yeast infection (candidiasis), antifungal medications play a crucial role. These medications, available in various forms such as creams, suppositories, or oral tablets, work by inhibiting the growth of the fungus responsible for the infection. Common antifungal agents used include fluconazole, clotrimazole, miconazole, and others [33]. These medications help to resolve the infection and reduce symptoms like itching, burning, and abnormal discharge.

Antibiotics

Bacterial vaginosis, another potential cause of white vaginal discharge, may be treated with antibiotics. Metronidazole and clindamycin are commonly prescribed antibiotics for bacterial vaginosis. They work by targeting and eliminating the overgrowth of harmful bacteria in the vagina, restoring the natural balance of vaginal flora. By reducing the bacterial overgrowth, antibiotics help alleviate symptoms such as the thin, grayish-white discharge and fishy odor associated with bacterial vaginosis [34].

Hormonal Medications

Hormonal imbalances can also contribute to changes in vaginal discharge. Hormonal medications, such as oral contraceptives (birth control pills), hormone replacement therapy (HRT), or medications used to treat conditions like polycystic ovary syndrome (PCOS), may affect vaginal secretions. These medications can influence estrogen and progesterone levels, which in turn can impact the quantity and consistency of vaginal discharge. Women may experience variations in their discharge patterns while using hormonal medications [35].

Anti-inflammatory Medications

Inflammatory conditions affecting the vaginal area, such as vaginitis or cervicitis, may lead to changes in vaginal discharge, including white discharge. Nonsteroidal anti-inflammatory drugs (NSAIDs) or corticosteroids may be prescribed to reduce inflammation and alleviate

associated symptoms. These medications help to address the underlying inflammatory processes contributing to abnormal vaginal discharge [36].

Topical Preparations

Topical medications, such as vaginal creams or gels containing soothing agents like aloe vera or calendula, may be used to relieve discomfort associated with white vaginal discharge or inflammation. These preparations can provide symptomatic relief by moisturizing the vaginal tissues and reducing irritation [37].

Healthcare provider's recommendations for White vaginal discharge

Evaluation and Diagnosis

The first step is to undergo a thorough evaluation by a healthcare provider. This may involve a physical examination, including a pelvic exam, and possibly laboratory tests such as vaginal swabs to determine the cause of the discharge. Proper diagnosis is essential for effective treatment.

Treatment for Underlying Cause

Treatment will depend on the underlying cause of the white vaginal discharge. If it's due to a yeast infection (candidiasis), antifungal medications such as fluconazole, clotrimazole, or miconazole may be prescribed. For bacterial vaginosis, antibiotics like metronidazole or clindamycin are commonly used. Other causes may require different approaches, such as hormonal medications for hormonal imbalances or anti-inflammatory drugs for inflammatory conditions.

Medication Adherence

It is important to adhere to the prescribed treatment regimen as directed by the healthcare provider. This includes completing the full course of medication, even if symptoms improve before the treatment is finished, to ensure the infection is fully eradicated and reduce the risk of recurrence.

Hygiene Practices

Practicing good genital hygiene is essential for maintaining vaginal health. This includes washing the external genital area with mild soap and water, avoiding harsh cleansers or douches that can disrupt the natural balance of vaginal flora, and wearing breathable cotton underwear.

Avoiding Irritants

Avoiding potential irritants can help prevent exacerbation of symptoms. This includes avoiding scented hygiene products, tight-fitting clothing, and excessive use of feminine hygiene sprays or powders.

Follow-Up

Follow-up appointments with the healthcare provider may be necessary to monitor progress and ensure that the treatment is effective. If symptoms persist or worsen despite treatment, further evaluation may be needed to explore other potential causes.

Preventive Measures

For individuals prone to recurrent vaginal infections, preventive measures may be recommended. This can include probiotics to help maintain a healthy balance of vaginal flora, lifestyle modifications such as wearing loose-fitting clothing and avoiding excessive moisture in the genital area, and practicing safe sex to reduce the risk of sexually transmitted infections.

Conclusion

In conclusion, women commonly face various personal hygiene challenges that can impact their comfort, health, and confidence. Vaginal odor, yeast infections, urinary tract infections (UTIs), and menstrual hygiene issues are prevalent concerns that require attention to maintain vaginal health. Additionally, ingrown hairs, bacterial vaginosis, urinary incontinence, genital itching, and vulvovaginal irritation contribute to discomfort and require proper management. To address these issues effectively, maintaining good personal hygiene practices is essential. Regular bathing, wearing breathable underwear, practicing safe sex, and using gentle, pH-balanced products are crucial preventive measures. Furthermore, changing menstrual hygiene products regularly and avoiding irritants such as scented products or tight clothing can help prevent infections and discomfort. For women experiencing persistent symptoms, seeking prompt medical attention is crucial. Diagnosis of vaginal white discharge involves a systematic approach, including medical history, physical examination, and laboratory tests. Treatment strategies vary depending on the underlying cause and may include antifungal medications, antibiotics, hormonal treatments, or anti-inflammatory drugs.

References

- Reddy BS, Snehalatha M. (2011). Sanitation and personal hygiene: what does it mean to poor and vulnerable women? *Indian Journal of Gender Studies*.18(3):381-404.
- Coker-Bolt P, Jansson A, Bigg S, et al. (2017). Menstrual education and personal hygiene supplies to empower young women in Haiti. *OTJR: Occupation, Participation and Health*. 37(4):210-217.
- Ahn S, Cho K. (2014). Personal hygiene practices related to genito-urinary tract and menstrual hygiene management in female adolescents. *Korean Journal of Women Health Nursing*. 20(3):215-224.
- Smith VS. (2008). *Clean: A history of personal hygiene and purity*. Oxford University Press; 2008.
- Satish Kumar B, Reddy MA, Paul P, et al. (2020). Importance of understanding the need of personal hygiene: a comprehensive review. *Int J Res Pharm Pharm Sci*. 5:56-61.
- Chen Y, Bruning E, Rubino J, et al. (2017). Role of female intimate hygiene in vulvovaginal health: Global hygiene practices and product usage. *Women's Health*. 13(3):58-67.
- Adolfsson A, Hagander A, Mahjoubipour F, et al. (2017). How vaginal infections impact women's everyday life: women's lived experiences of bacterial Vaginosis and recurrent vulvovaginal candidiasis. *Advances in Sexual Medicine*.7(1):1-19.
- Johnson SR, Griffiths H, Humberstone FJ. (2010). Attitudes and experience of women to common vaginal infections. *Journal of lower genital tract disease*.14(4):287-294.
- Dielubanza EJ, Schaeffer AJ. (2011). Urinary tract infections in women. *Medical clinics*. 95(1):27-41.
- Abou Heidar NF, Degheili JA, Yacoubian AA, et al. (2019). Management of urinary tract infection in women: A practical approach for everyday practice. *Urology annals*. 11(4):339-346.
- Kaur R, Kaur K, Kaur R. (2018). Menstrual hygiene, management, and waste disposal: practices and challenges faced by girls/women of developing countries. *Journal of environmental and public health*.
- Schmitt ML, Clatworthy D, Ratnayake R, et al. (2017). Understanding the menstrual hygiene management challenges facing displaced girls and women: findings from qualitative assessments in Myanmar and Lebanon. *Conflict and health*.11:1-11.
- Iankoon IMPS, Goonewardena CSE, Fernandopulle R, et al. (2018). Women's understanding and cultural practices related to vaginal discharge: A qualitative study. *Nursing and Midwifery Studies*. 7(2):74-80.
- Calik KY, Erkaya R, Gülnur İ, et al. (2020). Genital hygiene behaviors of women and their effect on vaginal infections. *Clinical and Experimental Health Sciences*. 10(3):210-216.
- Hay P. (2018). Vaginal discharge. *Medicine*. 46(6):319-324.
- Venugopal S, Gopalan K, Devi A, et al. (2017). Epidemiology and clinico-investigative study of organisms causing vaginal discharge. *Indian journal of sexually transmitted diseases and AIDS*.38(1):69-75.
- Wang J. (2000). Bacterial vaginosis. Primary care update for OB/GYNS.7(5):181-185.
- Modak T, Arora P, Agnes C, et al. (2011). Diagnosis of bacterial vaginosis in cases of abnormal vaginal discharge: comparison of clinical and microbiological criteria. *The Journal of Infection in Developing Countries*.5(05):353-360.
- McCathie R. (2006). Vaginal discharge: common causes and management. *Current Obstetrics & Gynaecology*.16(4):211-217.
- Lemly D, Gupta N. (2020). Sexually transmitted infections part 2: discharge syndromes and pelvic inflammatory disease. *Pediatrics in Review*. 41(10):522-537.
- Sim M, Logan S, Goh LH. (2020). Vaginal discharge: evaluation and management in primary care. *Singapore Medical Journal*.61(6):297.
- Ponnaluri A. (2021). A study on microbiological profile in women with symptomatic vaginal discharge. *International Journal of Clinical Obstetrics and Gynaecology*. 5(3):325-329.
- Richardson A, Robinson AJ. (2022). Vaginal discharge. *Medicine*.50(5):254-258.
- Al Shammari A, Alshammari R, Alanazy D, et al. (2021). Abnormal Vaginal Discharge (AVD) among women of Saudi Arabia: Community based cross sectional study. *Medical Science*. 25:1837-43.
- Moshfeghy Z, Tahari S, Janghorban R, et al. (2020). Association of sexual function and psychological symptoms including depression, anxiety and stress in women with recurrent vulvovaginal candidiasis. *Journal of the Turkish German Gynecological Association*. 21(2):90.
- Zanardo V, Parotto M, Manghina V, et al. (2020). Pain and stress after vaginal delivery: characteristics at hospital discharge and associations with parity. *Journal of Obstetrics and Gynaecology*.40(6):808-812.
- Hillier SL, Austin M, Macio I, et al. (2021). Diagnosis and treatment of vaginal discharge syndromes in community practice settings. *Clinical Infectious Diseases*. 72(9):1538-1543.
- Melo A, Ossa X, Fetis G, et al. (2021). Concordance between clinical and laboratory diagnosis of abnormal vaginal discharge in Chilean women. *Revista Brasileira de Ginecologia e Obstetrícia/RBGO Gynecology and Obstetrics*. 243(08):600-607.

29. Sonthalia S, Aggarwal P, Das S, et al. (2020). Aerobic vaginitis– An underdiagnosed cause of vaginal discharge–Narrative review. *International journal of STD & AIDS*. 31(11):1018-1027.
30. Rao VL, Mahmood T. (2020). Vaginal discharge. *Obstetrics, Gynaecology & Reproductive Medicine*.30(1):11-18.
31. van den Munckhof EH, van Sitter RL, Lamont RF, et al. (2021). Developing an algorithm for the diagnosis of abnormal vaginal discharge in a dutch clinical setting: A pilot study. *Diagnostic Microbiology and Infectious Disease*.101(1):115431.
32. Mendling W, Shazly MAE, Zhang L. (2022). The role of lactic acid in the management of bacterial vaginosis: a systematic literature review. *Future Pharmacology*. 2(3):198-213.
33. Ganeshkumar A, Nagarajan P, Mahalingam P, et al. (2020). Antifungal susceptibility and virulence profile of *Candida* isolates from abnormal vaginal discharge of women from southern India. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 254:153-158.
34. Hamilton J, Jimenez E, Zarei P, et al. (2024). Exploring vaginal discharge scoring to assess clinical metritis severity: Comparison between intrauterine dextrose and systemic antibiotics treatments. *The Veterinary Journal*.106103.
35. Halas JG, Grimberg A. (2020). Dilemmas of growth hormone treatment for GH deficiency and idiopathic short stature: defining, distinguishing, and deciding. *Minerva pediatrica*. 72(3):206.
36. Lu F, Wei J, Zhong Y, et al. (2022). Antibiotic therapy and vaginal microbiota transplantation reduce endometriosis disease progression in female mice via NF-κB signaling pathway. *Frontiers in Medicine*.9:831115.
37. Lanis A, Talib HJ, Dodson N. (2020). Prepubertal and adolescent vulvovaginitis: What to do when a girl reports vaginal discharge. *Pediatric annals*.49(4):e170-e175.



This work is licensed under Creative Commons Attribution 4.0 License

To Submit Your Article Click Here:

Submit Manuscript

DOI: [10.31579/2642-9756/196](https://doi.org/10.31579/2642-9756/196)

Ready to submit your research? Choose Auctores and benefit from:

- fast, convenient online submission
- rigorous peer review by experienced research in your field
- rapid publication on acceptance
- authors retain copyrights
- unique DOI for all articles
- immediate, unrestricted online access

At Auctores, research is always in progress.

Learn more <https://www.auctoresonline.org/journals/women-health-care-and-issues>