

**NEWPORT INTERNATIONAL JOURNAL OF
RESEARCH IN MEDICAL SCIENCES (NIJRMS)**

Volume 5 Issue 1 2024

<https://doi.org/10.59298/NIJRMS/2024/51.2019.1400>

Page | 20

Impact of Vaginal Douching on Women's Health; Benefits and Potential Health Risk

Umar Asiya Imam¹, Adikwu Pamela Onyemowo¹ and *Emmanuel Ifeanyi Obeagu²

¹Department of Medical Microbiology, School of Medical Laboratory Sciences, Usmanu Danfodiyo University, Sokoto, Nigeria.

²Department of Medical Laboratory Science, Kampala International University, Uganda.

*Corresponding author: Emmanuel Ifeanyi Obeagu, Department of Medical Laboratory Science, Kampala International University, Uganda. emmanuelobeagu@yahoo.com, obeagu.emmanuel@kiu.ac.ug

ORCID: 0000-0002-4538-0161

ABSTRACT

For decades, vaginal douching, the practice involving the cleansing of the vaginal canal with water or mixture of fluids has ignited controversy, sparking debates about its potential benefits and detrimental impacts on women's health. The risks of vaginal douching far outweigh any unproven benefits as this procedure provides a pressurized fluid vehicle for pathogen transport, helping lower genital tract infections ascend above the cervix, into the uterus, fallopian tubes and abdominal cavity, disrupting natural equilibrium of the vagina and leading to a wide range of adverse outcomes including pelvic inflammatory disease, bacterial vaginosis, cervical cancer, poor pregnancy outcomes, sexually transmitted infections, recurrent vulvovaginal candidiasis, and infertility. Additionally, douching may interfere with the body's natural defense mechanisms against pathogens, making it easier for infections to take hold. Furthermore, some douching products contain harsh chemicals that can irritate the vaginal tissue and cause discomfort or pain and therefore, a strict reevaluation of the practice's necessity for women's health is recommended as the best way to support vaginal health is to ensure good overall hygiene and let the body's natural processes do their job.

Keywords: Douching, Women, Benefits and Health risk

INTRODUCTION

Vaginal douching is a practice that has been in existence for several centuries and involves washing or cleaning out the vagina with water or other mixtures of fluid to eliminate odor and 'clean' the vagina [1-2]. Most douches are sold in stores as prepackaged mixes of water and vinegar, baking soda, and/ or iodine while a few contain antiseptics fragrances. The mixture usually comes in a bottle or bag which allows you to the squirt the douche through a tube or nuzzle into the vagina. Vaginal douching can be widely seen in cultures that define the female body, menstruation, and sexual relations as dirtiness [3]. In a 2016 study on douching practices among Hausa Fulani pregnant women with or without bacterial vaginosis in Zaria, Northwest Nigeria, 85.5% consented to vaginal douching using hands to insert plain water (80%), insertion of toilet soap (55.0%), using warm water plus disinfectant/salt/black soap (18.6%) and using a jet or stream of water (8.3%). In both cases, the women were oblivious of the potential health risk of the practice and the role it played in contributing to any vulvo/vaginal health problem they may have been experiencing at the time [4]. According to the US department of health and human resources, one in every five women between the ages of 18 and 44 use douches regularly. A 2012 survey found the practice to be high in African-American and Hispanic women and that teenagers of all ethnicity and races are more likely to douche. Observational studies have suggested a strong association between vaginal douching and bacterial vaginosis [5]. However, the reported association may be due to confounding by indication that the existing study design cannot determine whether douching increases the risk of bacterial vaginosis or bacterial vaginosis symptoms lead women to douche

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

[6]. Proponents of the douching hypotheses propose that douching causes disequilibrium in vaginal microflora or induces inflammation through physical or chemical irritation, and this predisposes women to bacterial vaginosis. While most commercial douche products consist primarily of fragrance, acetic acid and water, some also contain surfactants, such as octoxynol-9 or cetylpyridinium chloride. Surfactant detergents can disrupt lipid membranes and thus have antimicrobial and viricidal activities. Additionally, these detergents may wash away antibacterial agents or disturb cell membranes, causing irritation to mucosal surfaces, which in turn can increase susceptibility to genital tract infections [7]. In the past, women who douched stated that douching helped them feel clean, healthy and good, treated infections, provided ablution, enhanced their appeal to partners and prevented pregnancy. Moreover, women performed vaginal douching for vaginal cleaning following coitus to protect themselves from disease, during menstruation, to clean themselves before sexual intercourse and gynecological examinations, to decrease unpleasant odours, to imitate others who performed vaginal douching in order to gain experience or out of curiosity [3].

PREVALENCE OF VAGINAL DOUCHING.

The exact statistics for vaginal douching are not available and some studies have suggested the worldwide prevalence of this practice could vary between 32-76%. Overall, the incidence in the West seems to be on the decline, though studies in the US suggest that the practice is fairly common among American Black and Hispanic women, and to a lesser degree in American White women. There have been reports that the practice in adolescents could vary between 52-69% in the United States [8]. Vaginal douching is also a fairly common practice in African countries such as Nigeria and Ghana reporting a prevalence of over 90 percent. Sporadic douching appears to be more common than regular douching and the frequency of douching has a bearing on the adverse effects related to douching. Vaginal douching has been found to be associated with poverty, low level of education and multiple sexual partners though a causal relationship has not been established [8].

HISTORIC CONTEXT OF VAGINAL DOUCHING

Vaginal douching has been practiced for centuries, dating back to ancient Egypt and Greece. It was initially used as a form of birth control, but it was also believed to have other health benefits such as preventing infections and maintaining feminine hygiene [9]. In the 19th century, vaginal douching became increasingly popular in the United States, as it was promoted as a way to prevent pregnancy and sexually transmitted infections. However, there was no scientific evidence to support these claims, for in fact, douching can actually increase the risk of STIs. Despite the lack of evidence, douching continued to be widely promoted in the 20th century, advertisers marketed douching products as a way to stay fresh, clean and to remove odors and bacteria, cleanse after menstruation and prevent pregnancy and STIs, to treat vaginitis, improve fertility and to comply with religious and cultural beliefs. However, douching can actually disrupt the vagina's natural balance of bacteria, which can lead to infection and other health problems [10]. In recent decades, there has been a growing awareness of the risk of douching. The American college of obstetricians and gynecology (ACOG) advises against douching and the U.S food and drug administration (FDA) has banned the marketing of douching products for health benefits. But despite the risks, douching remains a common practice among women in Nigeria and the world at large. Women who douche consider it to be a healthy practice and often state that hygiene is their primary reason for douching [3]. Some women state that douching is "necessary for good hygiene". Motives for douching are many: to cleanse the vagina after menses or before or after sexual intercourse, to prevent or ameliorate an odor, to prevent or treat vaginal symptoms such as itching and discharge, and, less commonly, to prevent pregnancy or sexually transmitted diseases. Most women report douching for hygienic reasons, while douching due to symptoms may be comparatively uncommon. Outside influences such as physicians, mothers, girlfriends, boyfriends, and the media affect a woman's decision to douche. The motivation for douching is a complicated issue imbued with both psychological and social features that need to be addressed if vaginal douching behavior is likely to be modified on any large scale ([3].

MOTIVATIONS BEHIND VAGINAL DOUCHING

Women without vaginal symptoms primarily douche for perceived hygienic or aesthetic benefit. Post-coital douching has been suggested for two purposes, reducing semen exposure to prevent pregnancy and to prevent human immunodeficiency virus transmission [8]. After sexual intercourse, semen increases the pH of the vagina that facilitates sperm motility. Women believed douching would dilute and wash out semen and can help return the vagina to its normal acidity, theoretically helping to prevent heterosexual human immunodeficiency virus transmission. Obaidullah who carried out research on the effect of douching found that women who used a Betadine Vaginal Cleansing Kit before and after insertion of an intrauterine contraceptive device showed a marked absence of bacterial growth 4-6 weeks later, compared with control volunteers who used no cleansing agents. The investigators speculated that an absence of bacterial growth in the study group could help to minimize the risk of intrauterine device-related pelvic infection. These speculations and highly limited data do not, however, suggest that douching can be advocated for women. One could just as easily speculate that douching increases human immunodeficiency virus risk, increases pregnancy risk (by pressure forcing sperm into the endocervical canal, for instance), or exacerbates intrauterine device-related risks [11].

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Common motivations behind vaginal douching include:

- i. Perceived Hygiene: Many people believe that douching helps maintain vaginal cleanliness and freshness. They may use douching as part of their hygiene routine to remove menstrual blood, vaginal discharge, or odor.
- ii. Odor Control: Some individuals may use douching to address or prevent vaginal odor. They believe that douching can eliminate unpleasant smells, especially after menstruation or sexual activity.
- iii. Menstrual Hygiene: Douching is sometimes employed after menstruation as a way to ensure that the vaginal canal is thoroughly cleaned. However, this is often unnecessary and can disrupt the natural cleansing process.
- iv. Preventing or Treating Infections: Some may use douching in an attempt to prevent or treat vaginal infections, such as yeast infections or bacterial vaginosis. However, douching can actually increase the risk of these infections.
- v. Contraception and Fertility: There is a misconception that douching can be used as a contraceptive method by flushing out sperm after sexual intercourse. Additionally, some believe that douching can increase fertility, which is not supported by medical evidence.
- vi. Comfort and Relief: Individuals experiencing discomfort, such as itching or irritation, might turn to douching in the hope of finding relief. However, douching can exacerbate such symptoms.
- vii. Cultural and Social Influences: Cultural or social factors can play a significant role in motivating vaginal douching. Some communities have a history of douching as a traditional practice, which may be passed down through generations.
- viii. Misinformation: A lack of accurate information about vaginal health and douching can lead to misconceptions. Some people may believe that douching is a necessary or beneficial part of their routine due to misinformation.
- ix. Peer or Partner Pressure: Social pressure, influenced by a partner's expectations or peer behaviors, can also motivate some individuals to douche

IMPORTANCE OF THE STUDY

A healthy vagina has good and harmful bacteria. The balance of bacteria helps maintain an acidic environment which protects the vagina from infection and irritations. Douching can cause an overgrowth of harmful bacteria, thus leading to yeast infection and bacterial vaginosis. In women who already have an infection, this poor hygiene practice can push the bacteria further up into the uterus, fallopian tubes and ovaries thus leading to pelvic inflammatory disease, a serious health problem, STIs and problems during pregnancy. As such, studying the impact of vaginal douching is necessary because;

- a. Understanding the potential health risks associated with douching helps educate women about the potential harm of the practice. This knowledge empowers individuals to make informed decisions about their reproductive health
- b. Research on this topic allows healthcare professionals to provide evidence-based guidelines to women to discourage douching and recommend safer hygiene practices.
- c. Examining the importance of vaginal douching contributes to public health initiatives, helps identify trends and patterns of douching related health issues thus leading to more effective prevention and intervention strategies
- d. By studying the link between douching and infections (vaginosis, STIs), researchers can develop strategies to reduce incidence of these infections. This can ultimately improve women's overall reproductive health.
- e. Health equity; Understanding how cultural, socioeconomic and demographic factors influence douching practices can lead to targeted public health intervention to address health disparities among different groups of women.
- f. Pregnancy outcomes and consumer awareness; This research can inform prenatal care guidelines and raise public awareness about the lack of benefits and potential risks associated with vaginal douching to discourage its practice and promote safer alternatives

In summary, studying the impact of douching on women's health is crucial for promoting wellbeing, preventing health problems and ensuring the healthcare advice is based on scientific evidence rather than tradition or misconceptions.

THE NATURAL SELF CLEANSING PROCESSES OF THE VAGINA

The vagina is a self-cleaning and self-maintaining organ with several natural processes that help keep it healthy and in balance. Here are some of the key self-cleaning processes of the vagina:

- i. Vaginal Discharge: The vaginal walls produce a clear or white discharge, known as vaginal fluid or discharge. This discharge helps to carry away dead cells, bacteria, and other debris from the vaginal canal. It is a normal and necessary part of the self-cleaning process.
- ii. pH Regulation: The vagina maintains an acidic pH level (typically around 3.8 to 4.5) as a natural defense mechanism. This acidity helps to inhibit the growth of harmful bacteria and yeast, contributing to the overall health of the vaginal environment.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

- iii. **Beneficial Bacteria:** The vagina hosts a variety of beneficial bacteria, primarily lactobacilli, which help to maintain a healthy balance of microorganisms. These "good" bacteria produce lactic acid, further contributing to the acidic pH and preventing the overgrowth of harmful organisms.
- iv. **Menstrual Blood Expulsion:** During menstruation, the shedding of the uterine lining occurs, and this blood exits the body through the vaginal canal. This process helps remove menstrual debris and maintain the cleanliness of the vaginal environment.
- v. **Cell Shedding:** The vaginal walls naturally shed cells and tissues, which are continuously replaced with new, healthy cells. This cell turnover process helps remove older cells and contributes to vaginal health.
- vi. **Immune System:** The vaginal mucosa has immune system components that protect against infections. The immune system helps to recognize and fight off pathogens, such as harmful bacteria or viruses, that may enter the vaginal canal.
- vii. **Mucus Barrier:** The cervix produces mucus that forms a barrier to the entry of pathogens. This cervical mucus changes in consistency throughout the menstrual cycle, becoming thinner and more accommodating around ovulation to facilitate sperm passage and thicker during other times to protect against infections.

These natural self-cleaning processes work together to maintain the health and cleanliness of the vagina. It is important to understand that these processes are usually sufficient to keep the vagina in optimal condition. Consequently, external interventions like douching are generally unnecessary and may disrupt the delicate balance of the vaginal environment, potentially leading to infections and other health issues. In most cases, the best way to support vaginal health is to practice good overall hygiene and let the body's natural processes do their job.

CLASSIFICATION AND VARIATIONS OF VAGINAL DOUCHING

Classification of Vaginal douching

Vaginal douches can be classified into two types:

- a. **Acidic douches:** These douches contain ingredients that lower the pH of the vagina and are often used to treat bacterial vaginosis, a common vaginal infection.
- b. **Alkaline douches:** These douches contain ingredients that raise the pH of the vagina. These alkaline douches are sometimes used to treat yeast infections, another common vaginal infection.

They are marketed as mild cleansing solution for the removal of physiological and pathological vaginal secretions, "With Lactic Acid and Prebiotics that promote a balanced microbial flora in the vagina. It contains ingredients of natural origin, like allantoin and tea tree extract, providing antimicrobial and moisturizing properties".

Variations of vaginal douching

Vaginal douching can take various forms and variations, with differences in the substances used, the purpose, and the methods of administration. Here are some common variations of vaginal douching:

- **Plain Water Douching:** This involves using plain water to rinse the vaginal canal. It is often done for basic hygiene purposes. However, it's generally discouraged by healthcare professionals as the vagina is self-cleaning.
- **Vinegar and Water Douche:** A mixture of water and vinegar is sometimes used with the belief that it can restore or maintain the natural pH balance of the vagina. This variation is associated with douching for perceived odor control.
- **Baking Soda Douche:** Baking soda mixed with water is used to alter vaginal pH. It is thought to reduce odor and discomfort. However, it can disrupt the natural vaginal flora.
- **Commercial Douche Products:** Over-the-counter commercial douche products are available with various formulations, often containing a mixture of water, vinegar, and other chemicals. They may come with fragrances and additives.
- **Herbal Infusion Douching:** Some individuals use herbal infusions or teas for douching, believing that specific herbs have medicinal or cleansing properties. Examples of herbs used include chamomile, calendula, and rosemary.
- **Essential Oils Douche:** Essential oils are sometimes added to douching solutions for their potential therapeutic or aromatic benefits. Caution is advised when using essential oils in this manner, as they can be potent and may cause irritation.
- **Home-Made Douches:** In some cases, people may improvise douching solutions using readily available household items. This can be risky as it may lead to unsanitary conditions and unsafe practices.
- **Post-Menstrual Douching:** Some individuals may use douching as part of their post-menstrual hygiene routine. However, this is generally discouraged by healthcare professionals due to the risk of disrupting the vaginal environment.
- **Sexual Health and Fertility Douching:** Some people may douche for perceived sexual health benefits or as a method of contraception or fertility enhancement. These practices are not reliable and can be harmful

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

- Medical douches are performed by a healthcare professional and are used to treat or diagnose medical conditions. Medical douches may contain sterile water or saline solution, as well as medications such as antibiotics or antifungals.

Medical douches can be classified into three types

- i. Diagnostic douches: These douches are used to collect samples of vaginal fluid or cells for testing. Diagnostic douches may be performed to diagnose a variety of conditions, including infections, sexually transmitted infections, and cancer.
- ii. Therapeutic douches: These douches are used to treat medical conditions. Therapeutic douches may be used to deliver medications to the vagina, such as antibiotics or antifungals.
- iii. Prophylactic douches: These douches are used to prevent medical conditions. Prophylactic douches may be used to prevent vaginitis, a general term for inflammation of the vagina (Bard, 2023)

Devices used to douche

- i. Douche Bag or Bulb Syringe: These are containers with a nozzle designed for douching. The user fills the bag or bulb with the chosen solution and gently inserts the nozzle into the vagina.
- ii. Disposable Douches: These are pre-packaged, single-use douches that come with a nozzle for easy application. They often contain a premixed douching solution.
- iii. Home-Made Devices: In some cases, people may improvise devices using readily available items, which can be unsanitary and potentially harmful.

Herbal infusions

Herbal infusions are an infamous form of vaginal douching otherwise known as Kayan mata, and is the most common variation of douche in Northern part of Nigeria. Some individuals use herbal infusions or teas as a douching solution, believing they have medicinal or cleansing properties. The use of herbal infusions for vaginal douching is a practice that some individuals believe can offer natural cleansing, soothing, or therapeutic benefits. However, it's essential to approach this practice with caution and an understanding of its potential risks.

Pros of herbal infusion:

- Perceived Natural Approach: Herbal infusions are often considered a natural alternative to commercial douching solutions, which may contain synthetic or chemical additives.
- Aromatherapy: Some individuals may use herbal infusions for the potential aromatherapy benefits, as certain herbs can have pleasant scents that provide a soothing or calming experience.
- Traditional and Cultural Practices: In some cultures, the use of herbal infusions for vaginal douching has been a traditional practice passed down through generations.

Cons of herbal infusions

- Lack of Scientific Evidence: The effectiveness and safety of herbal infusions for vaginal douching have not been scientifically proven. The vagina is self-cleaning, and introducing foreign substances can disrupt its natural pH and microbiome.
- Risk of Irritation: Herbs can vary in terms of their effects on the delicate vaginal tissues. Some herbs may cause irritation, allergic reactions, or discomfort.
- Risk of Infection: Introducing foreign substances into the vagina, even in the form of herbal infusions, can increase the risk of infections, including bacterial vaginosis and yeast infections.
- Imbalance of Vaginal Flora: Herbal infusions can disrupt the natural balance of vaginal flora, potentially leading to an overgrowth of harmful bacteria or yeast.
- Lack of Regulation: Herbal preparations are not regulated in the same way as pharmaceutical products, meaning that there may be inconsistencies in the quality and safety of herbal infusions

BENEFITS OF VAGINAL DOUCHING

There are occasional instances where douching is recommended since it may have some beneficial effects in these situations. The most important of such a case is the Intrapartum vaginal antiseptic lavage with 0.2-0.4 chlorhexidine might reduce or prevent transmission of vaginal organisms from mother to child during delivery, including HIV. This is however a one time phenomenon and a completely different irrigation than repetitive vaginal douching [8].

HEALTH RISKS OF VAGINAL DOUCHING

A fertility expert and Head of Clinic, Bridge Clinic Fertility Centre, Ikeja, Lagos, Dr. Babatunde Ogunniran, said the practice can affect the temperature and acidity of the vagina, thereby predisposing the sensitive area to a number of infections and diseases. The Consultant Gynaecologist and Obstetrician said douching can change the necessary balance of vaginal flora (bacteria that live in the vagina) and natural acidity in a healthy vagina. According to him, "A healthy vagina has good and harmful bacteria. The balance of bacteria helps to maintain an acidic environment. Douching doesn't prevent any woman from infections rather, it alters vagina acidity leading to serious health

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

complications.” Dr. Ogunniran said douching with vaginal wipes, soaps, and perfumes affects the pH level of the vagina, noting that an elevated pH means that the healthy flora of the vagina may struggle to survive, while harmful bacteria can begin to thrive. “If a woman wants to wash her vulva, the washing has to be from front to the back and not with soap or any detergent, liquid other solutions some people usually use. You don’t need to wash the inside of the vagina; only the peripheral region of the vulva is enough.”

Meanwhile, a Consultant Gynaecologist and Obstetricians at the Epe General Hospital, Lagos, Dr. Cynthia OKafor, said while a woman can wash off the surface of the vulva with ordinary clean water, it is wrong for her to use the same clean water or any soap to wash the inside or insert her fingers in the vagina in the spirit of good hygiene. Dr. Okafor noted that the practice would lead to vaginosis, a painful inflammation of the vaginal tissue, explaining that the condition occurs when harmful bacteria flourish in the vagina because the natural, healthy ones have been washed away through douching. In a study titled, ‘Vaginal Douching: Evidence for Risks or Benefits to Women’s Health,’ published in the National Library of Medicine, a team of researchers led by Jenny Martino, said there have been conflicting views on the benefits or harm of douching. The authors said though there is a broad consensus that douching should be avoided during pregnancy, there is less agreement regarding douching for hygiene and relief of vaginitis symptoms. According to the research, “There are several ways by which douching may contribute to disease most notable being the removal of normal vaginal flora thus permitting the overgrowth of pathogens. It may also provide a pressurized fluid vehicle for pathogen transport, helping lower genital tract infections ascend above the cervix into the uterus, fallopian tubes, or abdominal cavity. These microbiologic and physical mechanisms may work in concert [12].

It was found that, among a group of women with clinical pelvic inflammatory disease, frequent and recent douching was associated with endometritis and upper genital tract infection in women with normal or intermediate vaginal flora. An added concern is that, if douching reduces the density of normal vaginal flora, bacterial vaginosis might develop or there may be a predisposition to colonisation by such sexually transmitted pathogens as *Neisseria gonorrhoeae* or *Chlamydia trachomatis*, filling the ecologic niche. The authors noted that pathogenic bacteria may then ascend into the upper reproductive tract, leading to inflammatory scarring, which is noted to be the principal cause of ectopic pregnancy, early miscarriage, and infertility. Physiologic risk for sexually transmitted diseases is greater among adolescent women since they typically have ectopic columnar epithelial cells in the exocervix with a large transformation zone that is vulnerable to bacterial and viral STIs. Some argue that it is especially important to caution adolescents about the potential adverse effects of douching, as they may be even more susceptible to its adverse consequences,” they added [12]. The timing of douching may impact on adverse sequelae, such as the temporal use of douching in relation to sexual activity, pregnancy, symptoms, and the menstrual cycle [13]. During ovulation, the levels of circulating estrogens increase, the cervical os opens, and the cervical mucus becomes clearer and more profuse [14–23]. Therefore, the risk of ascending infection from the pressure of douching may be greatest around the time of ovulation when the cervical os is gaping and the mucus is thin [12].

DOUCHING AND VAGINAL ECOLOGY

A healthy menarcheal vaginal environment is composed primarily of lactobacilli. Hydrogen peroxide (H_2O_2)-producing lactobacilli may protect the vagina against the overgrowth of potentially pathogenic indigenous flora and exogenous pathogens. Selected human strains of lactobacilli produce lactic acid that helps keep the vaginal pH low, usually less than 4.5, which is inhospitable to many pathogenic organisms. In addition to H_2O_2 production, lactobacilli adhere to epithelial cells, block pathogen adhesion, and stimulate the mucosal immune system. Newton et al found that douching more than once per month was associated with the presence of *Trichomonas vaginalis* (odds ratio (OR) = 3.5, $p = 0.02$) and that douching one or more times a month was associated with *Gardnerella vaginalis* (OR = 2.4, $p = 0.05$). They examined Mexican-American and African-American women and concluded that race (specifically, being African American) had a more consistent association with the presence or absence of a cervical-vaginal organism than other factors, including behavioral variables [24].

Different types of douching liquids have various antimicrobial effects [25]. Pavlova and Tao used in vitro studies to show that four antiseptic douches were inhibitory against all vaginal microorganisms, including lactobacilli. Three vinegar-containing douches selectively inhibited vaginal pathogens associated with bacterial vaginosis, group B streptococcal vaginitis, and candidiasis, but not lactobacilli, suggesting to the investigators that vinegar percent acetic acid) douches may be less harmful or may be beneficial [26]. Jones et al tested seven commercial vaginal antiseptic douche solutions against vaginal lactobacilli and found marked in vitro antibacterial activity, often after very short exposure times [27]. Thus, some douche preparations may cause substantial changes in vaginal flora. Onderdonk *et al* found that healthy women who douched with a 4 percent acetic acid solution experienced a transient reduction of total bacteria that they attributed to the physical washing of the vaginal vault alone [28]. However, when they used povidone-iodine, a bactericidal agent, it caused a significant reduction in total bacterial counts that suggested an antiseptic effect in addition to the washing effect. They concluded that, in some individuals, douching may decrease the vaginal bacteria that are present, allowing a rapid proliferation of potential pathogens, increasing

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

the risk of associated infections. In contrast, Monif *et al* found that, while in vivo douching with povidone-iodine caused a dramatic decrease in the total number of vaginal bacteria, baseline counts were reestablished within 120 minutes [29]. They also found that lactobacilli were the first bacteria to recover. As a consequence, Monif has argued for the potential benefits of douching [30].

EFFECTS OF DOUCHING

Douching has been associated with many adverse outcomes including pelvic inflammatory disease, bacterial vaginosis, cervical cancer, low birth weight, preterm birth, human immunodeficiency virus transmission, sexually transmitted diseases, ectopic pregnancy, recurrent vulvovaginal candidiasis, and infertility. Studies conflict, however, and the strength of association vary enormously between studies [31]. Independent of race, associations between douching and poverty, less than a high school education, a history of pelvic inflammatory disease, and having between two and nine lifetime sexual partners are reported [32]. A lower educational level, many sexual partners, and poverty are also risk factors for sexually transmitted diseases and bacterial vaginosis, making it especially complicated to assess causality since women might douche secondary to infection-related symptoms rather than for routine purposes [33].

Conflicting results are reported regarding sexually transmitted infections and douching [34]. Some studies suggest that adolescents who douche are more likely to have a history of a sexually transmitted disease, while other studies have found that women who have a history of a sexually transmitted disease were less likely to douche [35]. Prospective studies are needed to assess whether douching is causally related to sexually transmitted diseases or if douching is most commonly a response to symptomatic vaginitis [36].

REDUCED FERTILITY, INFERTILITY, AND ECTOPIC PREGNANCY

Pelvic inflammatory disease is a common cause of reduced fecundity (fertility) and sterility. In an analysis of the 1995 National Survey of Family Growth, it was found that women with a history of pelvic inflammatory disease were less likely to be fecund compared with women with no such history [37-39]. The likelihood of infertility increases as the number and severity of pelvic inflammatory disease episodes increase [33]. It has been reported that 20 percent of women who have one episode of pelvic inflammatory disease will be infertile and that 50 percent of women who have three or more episodes of pelvic inflammatory disease will be infertile. Vaginal douching may reduce fecundity by increasing susceptibility to infection. Baird *et al* found that women who douched were 30 percent less likely to become pregnant each month compared with women who did not douche [40]. This risk was greater for younger women than it was for older women. Women with a history of pelvic inflammatory disease were twice as likely to have had an ectopic pregnancy compared with sexually active women who had no history of pelvic inflammatory disease. Vaginal douching has been associated with ectopic pregnancy. Several studies reported that vaginal douching increased the risk for ectopic pregnancy [41]. Daling *et al* found that there was a small increase in risk of tubal pregnancy among women who douched more than two times per year in the past year (RR = 1.3, 95 percent CI: 0.9, 1.8). This risk was found to increase further if, in addition to douching more than two times per year, the women also had more than one sexual partner during their lifetime (RR = 1.6, 95 percent CI: 1.1, 2.3) or had previous exposure to chlamydia (RR = 2.4, 95 percent CI: 0.8, 7.3). Kendrick *et al* found that ectopic pregnancy risk among African-American women correlated with the number of years of douching at least once per month.

RECOMMENDATIONS

Encouraging open conversations about vaginal health and hygiene can help create a supportive and non-judgmental environment to discuss concerns and questions. Staying informed about guidelines and recommendations from reputable health organizations, such as the CDC and WHO, which discourage vaginal douching and sharing evidence-based information and resources about vaginal health with friends, family, and peers. Respect Cultural Differences: Be respectful of cultural practices and beliefs but emphasize the importance of making informed choices based on scientific evidence. Instead of douching, women should maintain good vaginal hygiene by simply washing the vulva with water. They should avoid using scented soaps, douches or deodorant sprays as this can irritate the delicate vaginal tissue. Women should explore alternative practices for maintaining vaginal health, such as probiotics, a balanced diet, and regular gynecological check-ups

CONCLUSION

Vaginal douching, the practice of cleansing or rinsing the vagina with water or other solutions, is a common practice among women worldwide. While it may be perceived as a means of maintaining hygiene or eliminating unpleasant odors, vaginal douching has been associated with a range of adverse health consequences. Studies have consistently shown that vaginal douching disrupts the natural balance of bacteria in the vagina, known as the vaginal microbiome. This delicate ecosystem plays a crucial role in protecting the vagina from infections and maintaining a healthy vaginal environment. By disrupting this balance, douching can lead to an overgrowth of harmful bacteria, increasing the risk of vaginal infections such as bacterial vaginosis and yeast infections. The consequences of vaginal douching extend beyond vaginal infections. Research has linked douching to an elevated risk of pelvic inflammatory disease (PID), a serious infection of the reproductive organs that can lead to infertility and chronic pain. Additionally, This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

douching has been associated with an increased risk of preterm birth and ectopic pregnancy. Moreover, douching has been implicated in the development of cervical cancer. Studies have shown that women who douche regularly have a higher risk of developing cervical cancer compared to those who do not douche. This increased risk is likely due to the disruption of the vaginal microbiome, which can make the cervix more susceptible to HPV infection, a major risk factor for cervical cancer. Given the overwhelming evidence of the adverse health effects of vaginal douching, it is strongly recommended that women avoid this practice.

REFERENCES

1. Lawrence, U. C., Achi, O. K., Ifeanyi, O. E., & Queen, E. (2014). Prevalence of bacterial vaginosis among female students of Michael Okpara university of Agriculture, Umudike, Abia State, Nigeria. *Journal of Pharmacy and Biological Sciences*, 39-52.
2. Ifeanyi, O. E., Chinedum, O. K., & Chijioke, U. O. (2018). Trichomonas vaginalis: complications and treatment. *Int J Curr Res Med Sci*, 4(5), 76-89.
3. Rasime, Y., Gulsen, V, & Esra K. (2020). Effect of vaginal douching on vaginal flora. *Scientific reports*, 21(1), 29-34
4. Ajayi V, Afolabi BM. Douching Practices among Hausa-Fulani Pregnant Women With and Without Bacterial Vaginosis in Zaria, Northwest Nigeria. *Transl Biomedine*. 2016, 7:4.
5. Rebecca, M.B., Khalil, G.G., Mark, A.K., Taha, E.T., Daniel, O.S, & Jonathan, M.Z. (2007). The effect of vaginal douching cessation on bacterial vaginosis. *Scientific reports*, 198(6), 628.e1-628.e7
6. Newton, E.R., Piper, J.M, & Shain, R.N. (2001). Predictors of the vaginal microflora. *Obstetrics Gynecology*;184:845-55.
7. Rebecca, M.B., Mark, A.K., Tonja, R.N., William, W.A., Jane, R.S., Jun, Z., Kai, F.Y., Daniel, O.S, & Jonathan, M.Z. (2008). A longitudinal study of vaginal douching and bacterial vaginosis. *American journal of epidemiology*, 168(2),188-196
8. O'Brien, K.M., Weinberg, C.R., D'Aloisio, A.A., Moore, K.R., & Sandler, D.P. (2021). The association between douching, genital talc use and risk of prevalent and incident cervical cancer. *Scientific Reports*, 11(1), 14836.
9. Francis, S. C., Hou, Y., Baisley, K., van de Wijgert, J., Watson-Jones, D., Ao, T. T., Herrera, C., Maganja, K., Andreasen, A., Kapiga, S., Coulton, G. R., Hayes, R. J., & Shattock, R. J. (2016). Immune Activation in the Female Genital Tract: Expression Profiles of Soluble Proteins in Women at High Risk for HIV Infection. *PloS one*, 11(1), e0143109.
10. Bassey, U.E, and Adebayo, A.M. (2021) 'Prevalence and Factors Associated With Vaginal Douching Among Secondary School Girls in a Metropolitan City in Ogun State, Nigeria'. *Journal of Pediatric and Adolescent Gynecology*, 34(1): 12-17.
11. Jenny, L.M, & Sten, H.V. (2008). Vaginal douching; Evidence for risks and benefit to women's health. *Epidemiology review*, 24(2), 109-124
12. Chijioke, I. (2023). Douching impacts negatively on vaginal acidity, creates environment for STIs, other diseases. Punch News.
13. Hickey, R. J., Zhou, X., Pierson, J. D., Ravel, J., & Forney, L. J. (2012). Understanding vaginal microbiome complexity from an ecological perspective. *Translational research : The journal of laboratory and clinical medicine*, 160(4), 267-282.
14. Obeagu EI, Agreen FC. Anaemia among pregnant women: A review of African pregnant teenagers. *J Pub Health Nutri*. 2023; 6 (1). 2023;138. [links/63da799664fc860638054562/Anaemia-among-pregnant-women-A-review-of-African-pregnant-teenagers.pdf](https://doi.org/10.21960/63da799664fc860638054562/Anaemia-among-pregnant-women-A-review-of-African-pregnant-teenagers.pdf)
15. Obeagu EI, Ezimah AC, Obeagu GU. Erythropoietin in the anaemias of pregnancy: a review. *Int J Curr Res Chem Pharm Sci*. 2016;3(3):10-8. [links/5710fae108ae846f4ef05afb/ERYTHROPOIETIN-IN-THE-ANAEMIAS-OF-PREGNANCY-A-REVIEW.pdf](https://doi.org/10.21960/5710fae108ae846f4ef05afb/ERYTHROPOIETIN-IN-THE-ANAEMIAS-OF-PREGNANCY-A-REVIEW.pdf).
16. Obeagu EI, Adepoju OJ, Okafor CJ, Obeagu GU, Ibekwe AM, Okpala PU, Agu CC. Assessment of Haematological Changes in Pregnant Women of Ido, Ondo State, Nigeria. *J Res Med Dent Sci*. 2021 Apr;9(4):145-8. [links/608a6728a6fdccaebdf52d94/Assessment-of-Haematological-Changes-in-Pregnant-Women-of-Ido-Ondo.pdf](https://doi.org/10.21960/608a6728a6fdccaebdf52d94/Assessment-of-Haematological-Changes-in-Pregnant-Women-of-Ido-Ondo.pdf).
17. Obeagu EI, Obeagu GU. Sick Cell Anaemia in Pregnancy: A Review. *International Research in Medical and Health Sciences*. 2023 Jun 10;6(2):10-3. <http://irmhs.com/index.php/irmhs/article/view/111>.
18. Jakheng SP, Obeagu EI. Seroprevalence of human immunodeficiency virus based on demographic and risk factors among pregnant women attending clinics in Zaria Metropolis, Nigeria. *J Pub Health Nutri*. 2022; 5 (8). 2022;137. [links/6317a6b1acd814437f0ad268/Seroprevalence-of-human-immunodeficiency-virus-](https://doi.org/10.21960/6317a6b1acd814437f0ad268/Seroprevalence-of-human-immunodeficiency-virus-)

- [based-on-demographic-and-risk-factors-among-pregnant-women-attending-clinics-in-Zaria-Metropolis-Nigeria.pdf](#).
19. Obeagu EI, Obeagu GU, Chukwueze CM, Ikpenwa JN, Ramos GF. Evaluation of Protein C, Protein S and Fibrinogen of Pregnant Women with Malaria in Owerri Metropolis. *Madonna University journal of Medicine and Health Sciences* ISSN: 2814-3035. 2022 Apr 19;2(2):1-9.
 20. Obeagu EI, Ikpenwa JN, Chukwueze CM, Obeagu GU. Evaluation of protein C, protein S and fibrinogen of pregnant women in Owerri Metropolis. *Madonna University Journal of Medicine and Health Sciences* ISSN: 2814-3035. 2022 Apr 18;2(1):292-8.
<https://madonnauniversity.edu.ng/journals/index.php/medicine/article/view/57>.
 21. Obeagu EI, Obeagu GU, Adepoju OJ. Evaluation of haematological parameters of pregnant women based on age groups in Olorunsogo road area of Ido, Ondo state. *J. Bio. Innov*11 (3). 2022:936-41.
 22. Obeagu EI. An update on utilization of antenatal care among pregnant Women in Nigeria. *Int. J. Curr. Res. Chem. Pharm. Sci.* 2022;9(9):21-6.DOI: 10.22192/ijcrps.2022.09.09.003
 23. Okoroiwu IL, Obeagu EI, Obeagu GU. Determination of clot retraction in pregnant women attending antenatal clinic in federal medical centre Owerri, Nigeria. *Madonna University Journal of Medicine and Health Sciences* ISSN: 2814-3035. 2022 Jul 22;2(2):91-7.
<https://madonnauniversity.edu.ng/journals/index.php/medicine/article/view/67>.
 24. Keller, M. J., Madan, R. P., Torres, N. M., Fazzari, M. J., Cho, S., Kalyoussef, S., Shust, G., Mesquita, P. M., Louissaint, N., Chen, J., Cohen, H. W., Diament, E. C., Lee, A. C., Soto-Torres, L., Hendrix, C. W., & Herold, B. C. (2011). A randomized trial to assess anti-HIV activity in female genital tract secretions and soluble mucosal immunity following application of 1% tenofovir gel. *Scientific Reports*, 6(1), e16475.
 25. Deléré, Y., Schuster, M., Vartazarowa, E., Hänsel, T., Hagemann, I., Borchardt, S., Perlitz, H., Schneider, A., Reiter, S., & Kaufmann, A. M. (2011). Cervicovaginal self-sampling is a reliable method for determination of prevalence of human papillomavirus genotypes in women aged 20 to 30 years. *Journal of clinical microbiology*, 49(10), 3519–3522.
 26. Kasaro, M. P., Husnik, M. J., Chi, B. H., Reid, C., Magure, T., Makanani, B., Tembo, T., Ramjee, G., Maslankowski, L., Rabe, L., & Brad Guffey, M. (2017). Impact of targeted counseling on reported vaginal hygiene practices and bacterial vaginosis: the HIV Prevention Trials Network 035 study. *International journal of STD & AIDS*, 28(5), 467–475.
 27. Jones, H. E., Brudney, K., Sawo, D. J., Lantigua, R., & Westhoff, C. L. (2012). The acceptability of a self-lavaging device compared to pelvic examination for cervical cancer screening among low-income women. *Journal of women's health*, 21(12), 1275–1281.
 28. Onderdonk, A.B., Delaney, M.L., & Hinkson, P.L. (1992). Quantitative and qualitative effects of douche preparations on vaginal microflora. *Obstetrics Gynecology*;80:333–8
 29. Monif, G.R. (1999). The great douching debate: to douche, or not to douche. *Obstetrics Gynecology*. ;94:630–1.
 30. Baisley, K., Changalucha, J., Weiss, H. A., Mugeye, K., Everett, D., Hambleton, I., Hay, P., Ross, D., Tanton, C., Chirwa, T., Hayes, R., & Watson-Jones, D. (2009). Bacterial vaginosis in female facility workers in north-western Tanzania: prevalence and risk factors. *Sexually transmitted infections*, 85(5), 370–375.
 31. Arbourn, M., Corwin, E. J., & Salsberry, P. (2009). Douching patterns in women related to socioeconomic and racial/ethnic characteristics. *Journal of obstetric, gynecologic, and neonatal nursing : JOGNN*, 38(5), 577–585.
 32. Hensel, K. J., Randis, T. M., Gelber, S. E., & Ratner, A. J. (2011). Pregnancy-specific association of vitamin D deficiency and bacterial vaginosis. *American journal of obstetrics and gynecology*, 204(1), 41.e1–41.e419.
 33. Hallarn, J., Bauer, G. R., Potter, E., Wilcox, H., Newfeld, J., Krakowsky, Y., Ravel, J., & Prodder, J. L. (2023). Gynecological concerns and vaginal practices and exposures among transfeminine individuals who have undergone vaginoplasty. *The journal of sexual medicine*, 20(11), 1344–1352.
 34. Ott, M. A., Ofner, S., & Fortenberry, J. D. (2009). Beyond douching: use of feminine hygiene products and STI risk among young women. *The journal of sexual medicine*, 6(5), 1335–1340.
 35. Baeten, J. M., Hassan, W. M., Chohan, V., Richardson, B. A., Mandaliya, K., Ndinya-Achola, J. O., Jaoko, W., & McClelland, R. S. (2009). Prospective study of correlates of vaginal Lactobacillus colonisation among high-risk HIV-1 seronegative women. *Sexually transmitted infections*, 85(5), 348–353.
 36. Gallo, M. F., Sharma, A., Bukusi, E. A., Njoroge, B., Nguti, R., Jamieson, D. J., Bell, A. J., & Eschenbach, D. A. (2010). Intravaginal practices among female sex workers in Kibera, Kenya. *Sexually transmitted infections*, 86(4), 318–322.
 37. Obeagu, E. I., Njar, V. E., & Obeagu, G. U. (2023). Infertility: Prevalence and consequences. *Int. J. Curr. Res. Chem. Pharm. Sci*, 10(7), 43-50.

38. Edward, U., Okechie, M. U., Onuoha, E. C., & Obeagu, E. I. Studies on Fertility Hormone in Azoospermia Men Attending Imo State Specialist Hospital, Owerri.
39. Obeagu, E. I., & Bunu, U. O. (2023). Factors that influence unmet need for family planning. *International Journal of Current Research in Biology and Medicine*, 8(1), 23-27.
40. Baird, D.D, & Strassmann, B.I. (2000) Women's fecundability and factors affecting it. In: Goldman MB, Hatch MC, editors. *Women & health. Academic Press* pp. 126-37.
41. Fujita, S., Momma, T., Endo, E., Kase, K., Ujiie, D., Hanayama, H., Watanabe, Saze, Z., Ohki, S., & Kono, K. (2019). A Case of Rectovaginal Fistula after Rectal Cancer Surgery Cured with Estriol Vaginal Tablet and Vaginal Lavage. *Cancer & chemotherapy. Gan to kagaku ryoho*, 46(13), 2078-2080.

CITE AS: Umar Asiya Imam, Adikwu Pamela Onyemowo and Emmanuel Ifeanyi Obeagu (2024). Impact of Vaginal Douching on Women's Health; Benefits and Potential Health Risk. NEWPORT INTERNATIONAL JOURNAL OF RESEARCH IN MEDICAL SCIENCES 5 (1): 20-29. <https://doi.org/10.59298/NIJRMS/2024/51.2019.1400>.