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PERCEIVED HEALTH RISKS OF VAGINAL DOUCHING AMONG WOMEN OF COLOR

BY
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THESIS
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ABSTRACT

The practice of vaginal douching has been linked to harmful reproductive effects. This research includes primary data analysis examining the douching frequency of young, non-White women at a large Midwestern university. This douching frequency is examined in detail in order to determine how it pertains to sexually transmitted diseases. The study consisted of 187 women who were surveyed during a period of eight months. The study population included college students between the ages of 18 and 26 who identified themselves as African American, Latina, and/or Asian American. The African American and Latina populations were included in this study due to a litany of previous research, which indicated that rates of sexually transmitted diseases are high among these groups. A lack of research on vaginal douching among the Asian American population is the reasoning behind selecting this group. In order to measure whether douching negatively affects these groups, several variables were tested. Sexual risk behavior was measured by condom use. The majority of women in the survey stated that they used condoms as a contraceptive ($p = .05$). Vaginal douching was not popular among the sample, with only 19 (10%) women practicing vaginal douching ($p = .05$). The reasons for douching, as identified by the participants, were 1) to prevent pregnancy, 2) to prevent vaginal odor, 3) to be like a relative/friend who douches, 4) to comply with a boyfriend/partner’s wishes, 5) to cleanse, and 6) to prevent contracting sexually transmitted diseases. Only one participant identified as both using vaginal douching products and lack of condom use. Results for the study indicated that douching frequency was not associated with sexually transmitted diseases (STDs) infections. Additional
research is needed to determine if this information can be generalized to the female college population across the nation.
To My Father, Mother and Sister
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CHAPTER I
INTRODUCTION

1.1 Background on Douching

Whether used for aesthetic or personal hygiene reasons, conflicting views have existed for at least 100 years on the benefits or harm of vaginal douching (Martino & Vermund, 2002). Although the percentage of women who douche has fluctuated during the past 20 years, vaginal douching is still commonly practiced to this day, mainly among African Americans and Latinas (Aral, Chandra, & Mosher, 1992; Funkhouser, Pulley, Lueschen, Costello, Hook & Vermund, 2002; Martino & Vermund, 2002). Whether or not douching is harmful to women is still a debatable topic (Funkhouser et al., 2002; Monif, 1999). According to the 1995 National Survey of Family Growth, 27% of American women who douche are within the reproductive age (Cottrell, 2006a; National Center for Health Statistics, 2005). Of this twenty-seven percent, 55% were African American, 33% were Latina, and 21% were White. Douching usually begins in females around the age of 16 or 17, or with the first female sexual experience (Cottrell, 2006a). Douching can upset the natural balance in the vagina by washing out the healthy vaginal bacteria such as lactobacilli that produce hydrogen peroxide and cause an overgrowth of the harmful bacteria, such as Gardnerella vaginalis, Prevotella species, Peptostreptococcus species, Mobiluncus species, Mycopasma hominis, or Bacteriodes (Martino & Vermund, 2002).

The use of vaginal douching products has been linked to adverse reproductive health consequences, such as pelvic inflammatory disease (PID), reduced fertility, ectopic pregnancy, low birth weight, preterm delivery, cervical cancer, and other gynecologic
health problems. Other health problems include bacterial vaginosis (BV), uterine infections, fallopian tube infections, and increased risk of HIV (Annang, Grimley, & Hook, 2006; Aral et al., 1992; Baird, Weinberg, Voight, & Daling, 1996; Beaton, Gibson, & Roland, 1996; Bruce, Kendrick, Kieka, Jagielski, Joshi, & Tolsma, 2002; Cottrell, 2006b; Fiscella, Franks, Kendrick, & Bruce, 1998; Fiscella, Franks, Kendrick, Meldrum, & Kieke, 2002; Kendrick, Atrash, Strauss, Gargiullo, & Ahn, 1997; Scholes, Daling, Stergachis, Weiss, Wang, & Grayston, 1993; Wolner-Hanssen et al., 1990; Zhang, Thomas, & Leybovich, 1997).

1.2 Background on Sexually Transmitted Diseases and Sexually Transmitted Infections

The terms “sexually transmitted diseases” (STDs) and “sexually transmitted infections” (STIs) have been used interchangeably in this research literature. Many articles referenced in this literature used both terms. The author will use the terminology to represent both terms. Half (i.e., 50%) of all new HIV infections in the United States and two-thirds (i.e., 66%) of all new STD infections occur among individuals under the age of 25 years (Centers for Disease Control and Prevention [CDC], 1998; Whitten, Rein, Land, Reppucci, & Turkheimer, 2003). Young adults are more likely to engage in sexual behaviors that might increase their STD risk (CDC, 1991; CDC, 1998; CDC, 1999; Coker, Richter, Valois, McKeown, Garrison, & Vincent, 1994; Collins, 1997; Eng & Butler, 1997; Whitten et al., 2003; Zabin & Hayward, 1993). The CDC reported that STD rates among populations varied tremendously in 2007. Some disparities may be due to racial minorities seeking care at public health clinics versus private clinics; public clinics report STD rates in more detail than private clinics (CDC, 2009a).
1.3 Purpose

The purpose of this study is to compare the practices of vaginal douching among minority college-aged women attending a large Midwestern university in Illinois. Observation of feminine hygiene practices may possibly show a correlation between feminine hygiene and STDs as that correlation relates to minority female college students and may have implications to future intervention among this population. This study will discuss women’s “sexual health” and dissect the term to better understand its meaning. Being aware of this expression can aid in understanding all the data related to this topic plus comprehend the larger picture with regard to sexual health and women’s health practices. This study will concentrate on those practices. Douching will also be discussed extensively, focusing on the historical perception as well as the douching practices. The reader will gain more insight on the topic of douching, the core of this research as it pertains to African American, Latina, and Asian American women. Finally, sexually transmitted diseases will be discussed.

1.4 Research Questions

The primary research questions of this study include:

1. What is the association between douching frequency and self-reported STD infection among racial and ethnic groups?

2. What is the association between douching frequency and condom usage?

3. What is the frequency of douching practices among college-aged women by racial and ethnic groups?

The study will determine if feminine hygiene practices among minority college-aged women increase their risk of contracting STDs.
1.5 Significance

Several studies have been conducted on douching and an abundance of scientific data have supported its negative effects (Blythe, Fortenberry, & Orr, 2003; Kendrick et al., 1997; Martens & Monif, 2003; Monif, 1999; Oh, Funkhouser, Simpson, Brown, & Merchant, 2003). Although several studies have focused on douching among non-Hispanic White, African American, and Latina females, very few studies have included the Asian American population (Okazaki, 2002). The investigator of this study will fill the gap in research literature by adding Asian American college women.

1.6 Key Terms and Definitions

The following terminology will be used throughout this research study:

- **AIDS**: Acquired Immunodeficiency Syndrome (Sexual Health, 2009)
- **Bacterial vaginosis (BV)**: A malodorous discharge from the vagina (Rajamanoharan, Low, Jones, & Pozniak, 1999)
- **Chlamydia**: Bacterial infection (CDC, 2009a)
- **Genital herpes**: A sexually transmitted disease caused by a virus called herpes simplex (HSV) (Sexual Health, 2009)
- **Gonorrhea**: A sexually transmitted disease caused by the *Neisseria gonorrhoeae* bacteria (Sexual Health, 2009)
- **HIV**: Human Immunodeficiency Virus (Sexual Health, 2009)
- **Human papillomavirus (HPV)**: Warts that are located near or in the genital areas (Sexual Health, 2009)
- **Pelvic inflammatory disease (PID)**: An infection of the fallopian tubes, uterus, cervix, or ovaries (Sexual Health, 2009)
- **Pubic Lice (Crabs)**: Tiny insects that can crawl from the pubic hair of one person to the pubic hair of another person during sexual intercourse (Sexual Health, 2009)
• Syphilis: A sexually transmitted disease caused by a type of bacteria known as a spirochete (Sexual Health, 2009)

• Trichomonas vaginalis (TV): A protozoal infection that is commonly transmitted by way of vaginal sexual intercourse (Sorvillo, Smith, Kerndt, & Ash, 2001)

• Vaginal douching: An ancient practice used for cleansing the vagina with a liquid solution (Aral et al., 1992; Martino & Vermund, 2002)

1.7 Assumptions

In conducting this research, the investigator made the following assumptions about the feminine hygiene and sexual practices: 1) Minority college women continue to engage in vaginal douching; and 2) A correlation between vaginal douching and STDs will be determined. These assumptions are based on previous studies citing that women still practice vaginal douching and studies citing that there is a correlation between vaginal douching and STDs. Prior research on feminine hygiene practices will be discussed next in the literature review.
CHAPTER II
LITERATURE REVIEW

2.1 Introduction and Overview

Though many may think dating is a common activity that occurs in young adults’ lives, research is being conducted to determine if this is truly the case. A change on college campuses has occurred from that of segregation of the sexes to one of increased contacts in classrooms, residencies, and social centers. Dating is done more informally today and has decreased as a social event upon college campuses (Reiter, Krause, & Stirlen, 2005). Glenn & Marquardt (2001) found that among 1,000 female campus students, 50% (n=500) of seniors reported being asked out on a date six or more times while 33% (n=330) of seniors were asked on a date less than two times within a year. When college students interact with members of the opposite sex, they do so in one of the following ways: “hooking up” or having a physical encounter without emotional attachment; a fast moving “joined at the hip” relationship; or gathering in an inter-sex mixed group of friends (Glenn & Marquardt, 2001; Can Reality TV Save College Dating?, 2005). An important part of college students’ dating relationships is sexual intercourse. College students view sex as both a positive and negative aspect of the relationship (Schleicher & Gilbert, 2005). Women are often given a double standard when relationships and dating are involved, however, these double standards are beginning to fade (Schleicher & Gilbert, 2005).

2.2 Sexual Health

Premarital intercourse rates among Asian undergraduates in Hong Kong (4% of women) are much lower than those of American college students (87% of women).
Obtaining accurate and reliable self-reported sexual behavior information is critical in public health research on sexual and reproductive health (Durant & Carey, 2002). Sexually transmitted diseases (STDs) are a significant health issue among college students in the United States with human papillomavirus (HPV), chlamydia, and genital herpes being the most reported STDs (American College Health Association, 2007; Lindley, Barnett, Brandt, Hardin, & Burcin, 2008). Seventy-six percent of college women greater than 18 years of age who engage in sexual intercourse should have an annual gynecological exam from their health care provider (Lindley, Brandt, Annang, Barnett, Hardin, & Burcin, 2009).

### 2.3 History of Vaginal Douching

It cannot be determined when vaginal douching first took place, but it is believed that women have been handing down this practice for millennia (Nicoletti, 2006). A wide variety of douching preparations have been used, including garlic and wine (noted on Egyptian papyrus circa 1500 BC as a treatment for menstrual disorders) and diluted Lysol (Baird et al., 1996). From the 1840s until the last third of the 19th century, commentators described the growing popularity of douching as a method of reproductive prevention (Brodie, 1994). Advertisements of women douching were printed within Australia in the 1900s along with other advertisements on vaginal douching in American magazines, (e.g., *Cosmopolitan* and *McCall’s*) dating back as early as the 1920s (The Museum of Menstruation and Women's Health [MUM], 1998). In the advertisements, women were made to feel that they were not pleasing to their husbands unless they practiced vaginal douching (MUM, 2007). Between the 1920s and the 1940s, three major
products were advertised in women’s magazines: Lysol, Zonite, and Sterisol. Each of these products was proven harmful to women who used them (Rome, 2000). The advertisements marketed these items as a method of birth control for women mainly as a contraceptive technique and an abortive technique (Brodie, 1994; MUM, 2006). In the early 1900s, women who conducted abortions were mothers with three or more children (Palmer & Greenberg, 1938). Women believed that inserting various liquids into their vaginal area would prevent—and end—a pregnancy (Kendrick et al., 1997). For example in 1885, a 23-year-old widow died trying to abort a 5-month pregnancy with a Davidson syringe and cold water (Brodie, 1994). By the late 19th century, middle and upper class women reported vaginal douching as their most common birth control method. Lysol was not used solely as a cleaning agent. The Lehn & Fink Products Co., the producer of Lysol, advertised it as a “feminine hygiene product” as well as a disinfectant. Between the 1930s and 1960s, Lysol was used as the leading feminine hygiene product in the United States (Fortune, 1938). Though women were using Lysol as a contraceptive, it was often found that it was unreliable. Another advertisement from Lysol stated:

Women are sensitive-shy, down deep in their hearts they know what’s the matter. But something keeps them from telling even their doctor and from listening to advice when she has guessed the truth. Such a case came to my notice recently. I could see my patient thought it “wasn’t nice” to face the problem of marriage hygiene frankly. So I sent for her husband. “I’m sorry I had to send for you,” I told him. “But your wife won’t listen. Now you must teach her what to do.” I explained about “Lysol”—the antiseptic that can always be trusted. I told him how safe it is, how gentle. I told him that the whole medical world approves, uses, recommends it. He went away comforted. And when I next saw his wife, her fears had vanished like dew in the sun. They had both grown young again. (Palmer & Greenberg, 1938)
It was eventually determined that injecting any substance (air, gas, or liquid) into a pregnant woman’s uterus can be fatal to both mother and child. For example, a 7-month pregnant African American woman, died inducing an abortion using a rubber syringe filled with a mixture of tincture of aloes, myrrh, and extract of cotton root (Gleason, 1879).

Women were also made to feel as though they were not appealing to their husbands if they did not practice vaginal douching. Advertisements circulated in the early 1900s, forced women to take drastic measures to “keep themselves clean.”

How perfectly repulsive to any self respecting woman! Is it any wonder that there are so many cases of infidelity among men, so many divorces, so many disillusionments? Can husbands be blamed where such conditions exist? There is nothing sweeter in the world than a clean, lovely woman, and nothing more grossly offensive than an unclean female! Such things could never happen to the woman who is in the habit of taking at least an occasional douche. (Chalmers, 1937)

Advertisements such as this one circulated in the early 1900s, causing women to take drastic measures to “keep themselves clean.” See Figure 1 for an example in which the Lehn & Fink Products Co. successfully advertised to make the Lysol douch the best-selling female contraceptive in the country until the late 1930s (Tone, 2001).

Despite adverse findings related to douching, douching is still widely used by women in the United States (Oh et al., 2003). An estimated 37% of women in the United States continue to douche regularly, and approximately 18% douche at least once per week (Aral et al., 1992; Kendrick et al., 1997). The 1995 National Survey of Family Growth showed that 55% African American women, 33% Latina women, and 21% White women practiced vaginal douching. In addition, several researchers reported that African
American women and Latinas have the highest incidence rates of douching (Cottrell, 2006b; National Center for Health Statistics, 2005). Another study on women’s vaginal douching practices found that 11.8% (n = 307) of women douched on a regular basis; White: 9.1%; African American: 27.7%; Latina: 15.0% (Grimley, Annang, Foushee, Bruce & Kendrick, 2006). Oh et al. found that 76% of African American women and 74% of White women reported douching. Race and ethnicity were unknown for 37% of the participants, with most of the unknown enrolled in clinics in urban communities (Oh et al, 2003). Foch, McDaniel, and Chacko (2001) found that among 169 adolescent girls, 69% (n = 117) reported a history of vaginal douching with 77% initiating this practice at ≤ 16 years. There was no significant difference between the degree to which African-American (75%) and White (64%) practiced vaginal douching. Female adolescents in the study, listed the following reasons for douching: 1) preventing pregnancy, 2) removing vaginal odor, 3) feeling clean, and 4) cleansing agent after sexual intercourse and menstruation. “Feeling clean” was the most common reason given for douching (Foch et al., 2001). Another researcher found that out of 840 women, 21% (n = 178) doused to prevent pregnancy (Baird et al., 1996). Women in the Baird et al. study douched for similar reasons previously mentioned in Foch et al.’s (2001) study.

2.4 Factors Associated with Vaginal Douching

Race, age, educational background, socioeconomic status (SES), and past history of douching were listed as the potential predictors to vaginal douching (Funkhouser et al., 2002). Other factors associated with vaginal douching included geographic region, smoking status, history of pelvic inflammatory disease (PID), history of gonorrhea or chlamydia, age at time of first intercourse, and the number of sexual partners (Aral et al.,
1992; Ness et al., 2005). The race and ethnicity, education, age, and socioeconomic status predict will be discussed within the next session.

**Vaginal douching among African American women.**

Studies on vaginal douching have been conducted primarily among African American women (Oh et al., 2003). Cottrell found that among 483 women ages 14-45, 55% African Americans, 36% Non-Hispanic Whites, and 6% Latinas participated in vaginal douching (2006b). Other researchers reported higher rates of douching among African American women (Amba, Chandra, Mosher, & Peterson, 1997; Cottrell, 2006b; Grimley, Oh, Desmond, Hook, & Vermund, 2005) compared to Non-Hispanic White women. Cottrell (2006b) found that African American women (90%) were more likely to have douched compared to Non-Hispanic White women (61%).

**Vaginal douching among Asian American women.**

Little or no research has been conducted on vaginal douching among Asian American women. It is not known whether or not this population was excluded from douching research due to lack of data practicing vaginal douching. Although studies do not reflect Asian American women, some information exists regarding douching among women from Asian countries. Among 454 Chinese female sex workers (FSWs), researchers reported vaginal douching is a common practice (Wang et al., 2005). Sixty-seven percent of FSW (n = 293) reported douching as a means of preventing STDs and HIV (Wang et al., 2005).

**Vaginal douching among Latinas.**

Researcher found that Latinas practiced vaginal douching at a rate of 33% (Abma et al., 1997; Martino & Vermund, 2002). Cottrell (2006b) reported that 46% of the
Latina participants reported douching in comparison to African American (90%), and White (61%) women ($x^2 = 61.87, df=2, p < .001$). Also, 29% of Latina participants doused at least once a month in comparison to African American (59%) and White (29%) women ($x^2 = 39.87, df=2, p < .001$). In addition, 29% of Latina douchers learned to douche from their mothers (Cottrell, 2006b). A qualitative study was conducted on vaginal douching practices among women of Hispanic descent residing in the United States, Puerto Rico, Dominican Republic, and other Spanish-speaking countries. The study found that 33 Latinas began douching after the initiation of sexual intercourse. The most common reason reported in this study for douching was “post-menstrual” at (50%). (McKee, Baquero, Anderson, Alvarez, & Karasz, 2009).

2.5 Demographical Predictors to Douching

**Education.**

Education is a variable often tested when surveying women on their douching practices. In many of these studies, the education level is broken down into three categories: “less than high school,” “high school graduate,” and “more than high school” (Cottrell, 2006b; Funkhouser et al., 2002; Ness et al., 2005). The role that education plays in vaginal douching is one that has progressed over time. In a 1988 study on women douching in the United States, education was inversely related to douching (Aral et al., 1992). Several studies found that the higher the education level the less likely women are to douche (Funkhouser et al., 2002; Ness et al., 2005). “The fact that women of higher educational attainment have lower rates of douching does confirm that education positively influences women to not initiate douching” (Nicoletti, 2006).
Age.

Women of various ages were surveyed to determine the practice of vaginal douching. Adolescents, early and late teenagers, middle-aged women, and elderly women (i.e., young-old, old, and old-old) were interviewed regarding vaginal douching practices. Douching was more common among women < 55 years of age (Annang, Grimley, & Hook, 2006; Funkhouser et al., 2002; Ness et al., 2005; Plummer & Grimley, 2005). When looking at the various beliefs about vaginal douching, women > 55 had the strongest beliefs in douching with 79.2% (n=114) believing douching is a good hygienic practice and 66.7% (n=96) believing douching is good for vaginal itching or discharge (Funkhouser et al., 2002).

Socioeconomic Status.

Socioeconomic status (SES), measured by family income or educational attainment, was another predictor in vaginal douching practices (Santelli, Lowry, Brener, & Robin, 2000). Women without health insurance and those receiving Medicaid were more likely to douche than women with health insurance (Abma et al., 1997; Cottrell, 2006b). McKee et al. (2009) determined that 53% of lower socioeconomic status women engage in vaginal douching. Of current douchers, 50.6% were unemployed and 63.5% had state-funded health care (Annang et al., 2006).

2.6 Sexually Transmitted Diseases

Sexually transmitted diseases are still a major public health challenge in the United States with an estimated 19 million new infections each year; almost half of them are reported from among 15 to 24 year olds (CDC, 2009a). In addition to youth, women and minorities also have high rates of sexually transmitted diseases (CDC, 2009b).
Researchers found that women who engaged in unprotected sex were twice as likely to become infected with certain pathogens, including gonorrhea and chlamydia, after a single exposure (Harlap, Kost, & Forrest, 1991; Shain et al., 1999). Women are twice as likely as men to become infected with hepatitis B, chlamydia, gonorrhea, and chancroid after a single exposure (Harlap et al., 1991; Shain et al., 1999;). Sexually transmitted rates among Asian Americans were reported to be extremely low compared to other races (Hahm, Lee, Ozonoff, & Amodeo, 2007; Okazaki, 2002). High incidence rates of STDs were once experienced by Non-Hispanic Whites but African American and Latina populations now are disproportionately affected by STDs (Ellen, Kohn, Bolan, Shiboski, & Krieger, 1995; Hofferth, 1987; Santelli et al., 2000; Moran, Aral, Jenkins, Peterman, & Alexander, 1989; Shain et al., 1999). Several sexually transmitted diseases were included in this study due to the high incidence rates among racial and ethnic minorities (CDC 2009a). Studies found that Latinas and African American women were more likely to douche and more likely to be infected with a STD compared to other races (Cottrell, 2006b; Martino & Vermund, 2002). However, less information is available on sexually transmitted diseases in the Asian American population (Okazaki, 2002; Wang et al., 2005). The definitions for each of the STDs will be described within the next section.

**Bacterial Vaginosis.**

Conflicting opinions make it difficult to determine whether or not bacterial vaginosis (BV) is a sexually transmitted infection (Schmid, Markowitz, Joesoef, & Koumans, 2000) but it is the most common cause of vaginal problems in women of reproductive age (Cherpes et al., 2003). Bacterial vaginosis is classified as an absence of lactobacilli, which in turn causes the pH levels in the vagina to rise higher than 4.5.
A normal range is from 3.8-4.5. Once the pH level has risen greater than 4.5, a vaginal discharge and fishy odor is apparent (Llahi-Camp, Rai, Ison, Regan, & Taylor-Robinson, 1996). Bacterial vaginosis is associated with preterm delivery, premature rupture of membranes, chorioamnionitis, postpartum endometritis, and postpartum infections (Cottrell, 2008; Gutman, Peipert, Weitzen, & Blume, 2005). Bacterial vaginosis is most common among African-American women in the United States and African Caribbean islands than among women from White ethnic groups (Fiscella, 1996; Goldenberg, Kiebanoff, Nugent, Krohn, Hillier, et al., 1996; Hawes et al., 1996; Hay, Lamont, Taylor-Robinson, Morgan, Ison, & Pearson, 1994; Llahi-Camp et al., 1996; Rajamanoharan et al., 1999). Rajamanoharan et al. (1999) found that bacterial vaginosis was associated with the use of commercial products applied as a vaginal douche. Hydrogen peroxide served as a first line defense against vaginal infection (Cherpes, Meyn, Krohn, Lurie, & Hillier, 2003). Bacterial vaginosis relapse and/or reinfection has not yet been determined as a prior infection that was unresponsive to treatment (Brotman et al., 2008; Sobel, 1997).

Chlamydia.

Chlamydia is the most commonly reported disease in the United States with 1,108,374 diagnosed cases in 2007 (CDC, 2009b). If left untreated, infection with chlamydia can cause cervicitis, urethritis, and pelvic inflammatory disease (PID) in women (CDC, 2009b; Moran et al., 1989). The Centers for Disease Control also stated that young minority women are affected mostly by chlamydia; the racial breakdown as follows: African American (1,906.0 per 100,000), American Indian/Alaska Native (1,158.2 per 100,000), Latina (753.3 per 100,000), White (249.3 per 100,000), and,
Asian American/Pacific Islander (208.8 per 100,000) (CDC, 2009b). In a study conducted by Miller et al. (2004), chlamydia and gonorrhea were prevalent as co-infections at a rate of 0.30%. The Centers for Disease Control (2009a) recommends annual screening for chlamydia in sexually active women under the age of 26.

**Genital Herpes.**

Genital herpes is a sexually transmitted disease caused by herpes simplex virus type 1 (HSV-1) and herpes simplex virus type 2 (HSV-2) (CDC, 2010). Herpes simplex virus type 2 occurs primarily through sexual contact, and in the form of blisters surrounding the genitals and rectal area (CDC, 2010; Moran et al., 1989). Signs and symptoms of genital herpes include sores and flu-like symptoms, such as swollen glands and fever. Complications of genital herpes include congenital herpes, psychological distress, and the spreading of HIV (CDC, 2010). Women are four times more likely to contract genital herpes than men (ages 14-49 years of age) with a rate of one in five women compared to one in nine men (CDC, 2010; Genital- Warts-Help, 2006). Over 16% of Americans have been estimated to have genital herpes (CDC, 2009c). Genital herpes rates dropped from 17% to 10% from the period 1988 to 1994 to 10% from the period 2003 to 2006. Rates of HSV-2 continues to drop below the targeted 14% (Healthy People 2010). Rates of HSV-2 are higher among African Americans than Non-Hispanic Whites and Mexican Americans; with African Americans having the rate at 60% compared to Non-Hispanic Whites Americans with a rate of 30% (CDC, 2009c).

**Gonorrhea.**

According to the Centers for Disease Control, gonorrhea is the second most commonly reported infectious disease in the United States (CDC, 2009a). In 2007,
reported gonorrhea rates were 19 times higher among African Americans than Non-Hispanic Whites, twice as high amongLatinas than among Non-Hispanic Whites and three times higher among American Indians/Alaska Natives than among Non-Hispanic Whites (CDC, 2009a).

In a study by Hahm et al. (2007), 70% of the Asians and Pacific Islander young adults reported contacting gonorrhea. A 2007 report by the CDC stated that African Americans had the highest rates of gonorrhea (662.9 per 100,000) followed by American Natives/Alaska Natives (107.1 per 100,000); Hispanics had a rate of 69.2, Whites had a rate of 34.7, and Asians/Pacific Islanders had a rate of 18.8 per 100,000 (CDC, 2009a). As rates affect African Americans, the Centers for Disease Control (2009) discussed the impact that gonorrhea rates have within the African American community: “Blacks represent only 12% of the total U.S. population, but made up about 70% of gonorrhea cases and almost half of all chlamydia and syphilis cases in 2007 (48% and 46% respectively)” (2009a).

**HIV and AIDS.**

Acquired Immunodeficiency Syndrome (AIDS) and the human immunodeficiency virus (HIV) are global problems that cause suffering and costs billions of dollars each year (Donovan, 1993; Eng & Butler, 1997; Shain et al., 1999; Wasserheit & Holmes, 1992). Both HIV and AIDS are viruses that may be transmitted sexually, by transfusion of blood and blood products, and by sharing needles and syringes among drug users (Moran et al., 1989). Rates of heterosexually acquired HIV infection among women have been increasing in the United States (Focus on Women and HIV, 1997; Shain et al., 1999; Wortley & Fleming, 1997). Half of all new HIV infections in the United States
each year and two thirds of all new STD infections occur in young adults under the age of 25 (CDC, 1998; Whitten, Rein, Land, Reppucci, & Turkheimer, 2003). Risk factors for HIV infection include intravenous drug use and homosexuality in males (Anderson, 2001). Only one percent of Asians and Pacific Islanders in the United States had HIV or AIDS, the lowest among any other U.S. racial population (CDC, 2008b; Hahm et al., 2007). The majority of Asians and Pacific Islanders with HIV and AIDS are foreign-born (Hahm et al., 2007; Wortley, Metler, Hu, & Fleming, 2000). African Americans were disproportionately affected by the AIDS epidemic in 1998 in which they consisted of only 12% of the U.S. population, but 45% of the diagnosed AIDS cases (Duncan, Miller, Borskey, Fomby, Dawson, & Davis, 2002).

**Human Papillomavirus.**

Genital human papillomavirus (HPV) is responsible for several clinical conditions, including exophytic warts, cytologic abnormalities, and subclinical infections (Jamison, Kaplan, Hamman, Eager, Beach, & Douglas, 1995; Koutsky, Galloway, & Holmes, 1988; Koutsky & Wolner-Hannsen, 1989). These conditions are risk factors for genital warts and cervical cancer (CDC, 2008b). Cervical cancer incidence rates are 60% higher among African American women than Non-Hispanic White women. Mortality and incidence rates are also higher for Latinas living along the U.S.-Mexico border areas, as well as for Vietnamese Americans (Coronado, Thompsona, Koepsell, Schwartz, & McLerran, 2004; Saslow et al., 2007; Singh, Miller, Hankey, & Edwards, 2004). A national longitudinal study conducted in 2006 determined that HPV prevalence rates were highest among African American and Native American women while the prevalence rates were lowest among Asian American women (Manhart et al., 2006).
**Pubic Lice.**

*Phthirus pubis* (i.e., crab louse or public lice) has not been studied excessively among sexually active populations. Pubic lice, also known as “crabs,” are tiny insects that attach themselves to pubic hair. Pubic lice infection is one of the few sexually transmitted diseases that can be diagnosed by physical examination (Chapel, Katta, Kuszmar, & DeGiusti, 1979). Signs and symptoms for pubic lice include itching in the pubic region and visual spotting of adult lice. Genital lesions can also appear due to bites by lice and excessive scratching of the pubic area (Med Help, 2009; Minnesota Department of Health, 2008). Incidence rates and prevalence rates for pubic lice among racial and ethnic groups are unavailable.

**Syphilis.**

Syphilis is a genital ulcerative disease that is highly infectious but curable if treated in the primary or secondary phase. If left untreated, syphilis can cause a series of long-term complications including organ, brain, and cardiovascular damage. Untreated syphilis may even cause death (CDC, 2009a). Untreated syphilis among pregnant women can cause congenital syphilis (i.e., infant having direct contract with the syphilis through the birth canal). Complications from congenital syphilis are stillbirth, premature death, physical deformity, and neurological complications among children survivors. Congential syphilis is also on the rise (CDC, 2009a). In 1988, syphilis rates in African Americans were 45 times the rate of Non-Hispanic Whites; the rates for Hispanics were 13 times the rate of Non-Hispanic Whites (Moran et al., 1989). In 2007, syphilis rates increased by 10%, particularly among African American females. Although African Americans make up 12% of the U.S. population, African Americans make up nearly half (i.e., 46%) of
the syphilis cases (CDC, 2009b). According to the CDC, in 2007, syphilis rates increased among Latinas and American Indians/Alaska Natives by 22.9% and 6.3%, respectively. Rates for Asians/Pacific Islanders remained stable. During the past seven years, the rate of syphilis in the United States has increased (CDC, 2009b).

**Trichomonas Vaginalis.**

*Trichomonas vaginalis* (TV) is a protozoal infection that is commonly transmitted by way of vaginal sexual intercourse, and it is also one of the most curable sexually transmitted infections in women in the United States. An estimated 7.4 million new cases appear each year between men and women (CDC, 2009a; Sorvillo et al., 2001). Of the 3 to 5 million cases of *Trichomonas vaginalis* in the United States, 2 million involve young people between the ages of 15 and 24 years old (Sutton, Sternberg, Koumans, McQuillan, Bergman, & Markowitz, 2007). Women can contract *Trichomonas vaginalis* from both men and women whereas men can contract it only from women (CDC, 2009a).

*Trichomonas vaginalis* symptoms in men include irritation, burning, and itching of the penis; women may have a vaginal discharge with a strong vaginal odor, lower abdominal pains, itching, and irritations of the vaginal area (CDC, 2009b). In several studies examined by Sorvillo et al. (2001), the prevalence of *Trichomonas vaginalis* was highest in African Americans ranging from 1.5 to 4 times higher than any other racial or ethnic groups. Researchers posted that the reason for high rates of *Trichomonas vaginalis* among African Americans were due to douching:

> Alternatively, it is possible that practices such as douching, which is reportedly more common in black women and can increase susceptibility to other STIs, could predispose to trichomoniasis and explain the observed racial association. (Stewart, DeForge, Hartmann, Kaminski, & Pecukinia, 1991)
Researchers found that 37 out of the 212 women had trichomonas. African American women had the highest rate of trichomonas at 37.5% (n = 21),Latinas 10.5% (n = 14), and Non-Hispanic Whites 9.5% (n = 2) (Sorvillo, Kovacs, Kerndt, Stek, Muderspach & Sanchez-Keeland, 1998).

2.7 Sexually Transmitted Diseases in Illinois

The Illinois Department of Public Health maintains the number of sexually transmitted diseases throughout the State of Illinois. In 2007, the total population in the State of Illinois was 12,419,293. There was a total of 688 cases of early syphilis, 464 cases of primary/secondary syphilis, 20,813 cases of gonorrhea, and 55,470 cases of chlamydia in the State of Illinois in 2007. These numbers were dramatically different when the city of Chicago was excluded from the state population tally. Once Chicago was removed, these numbers decreased to 195 cases of early syphilis, 133 cases of primary/secondary syphilis, 11,425 cases of gonorrhea, and 33,289 cases of chlamydia. The Midwestern university surveyed in this study is located in Cook County. This county had a population of 179,669 in 2007 along with 4 cases of early syphilis, 1 case of primary/secondary syphilis, 436 cases of gonorrhea, and 1,271 cases of chlamydia (Illinois Department of Public Health, 2007).

Other rates discussed in this report include the STDs broken down by percentage. In 2007, of 23,943 clinic diagnoses in the State of Illinois, 26% were bacterial vaginosis, 9% candidiasis, 17% chlamydia, 3% herpes, 15% gonorrhea, 8% HPV, 1% syphilis, 9% trichomoniasis, 12% nongonococcal urethritis, and 0% other. The STD clinic client data collection was based on the number of visits. This means that clients may have been counted more than once a year (Illinois Department of Public Health, 2007).
2.8 Summary

An urgency surrounds the issue of women’s health. More research must be done to help women better understand how to care for themselves and prevent illness. Sexually transmitted diseases heavily impact women at a disproportional rate. It is important to assess the rising rates of sexually transmitted diseases and create steps toward decreasing those increasing rates. Some trends in previous research studies prove that douching negatively disrupts the pH balance in the female anatomy.

While it is difficult to determine the source of sexual health habits, several surveys with self-reported data have discussed topics such as douching, past sexual experiences, history of sexually transmitted diseases, and history of vaginal douching. By conducting various studies on women’s health issues, more information must be gathered to understand how to maintain a healthy woman’s lifestyle.

Each aspect of this study has been discussed in detail. Items discussed in this chapter included sexual health, the history of vaginal douching, factors associated with vaginal douching, and sexually transmitted diseases. Chapter III will examine the methodology of the study. Research questions, study design, inclusion criteria, survey instrument, and study measures will be discussed as they pertain to the study.
CHAPTER III
RESEARCH METHODS

3.1 Introduction

This chapter contains information that explains this study’s data collection, analysis, and methodology. The research questions, study design, study participants, study collections, and data analysis will be presented in detail. Discussion of the data analysis will occur in Chapter IV. This study was designed to focus on douching frequency, sexually transmitted diseases (STDs), condom usage, and to ascertain why women douche. Sexually transmitted diseases included gonorrhea, chlamydia, human papillomavirus (HPV), syphilis, pubic lice, genital herpes, bacterial vaginosis (BV), *Trichomonas vaginalis* (TV), HIV, and AIDS. Minority college-age women at a large Midwestern university were surveyed addressing three questions:

1. What is the association between douching frequency and self-reported STD infection among racial and ethnic groups?

2. What is the association between douching frequency and condom usage?

3. What is the frequency of douching practices among college-aged women by racial and ethnic groups?

A survey was designed to include questions to address each of these variables, which served as the framework for this study’s research questions. The research questions directly reflected information contained on the survey. The details of the survey, including how it was constructed, are discussed in detail later in this chapter. The surveys were completed and then analyzed. To truly understand the purpose of study, the three research questions will be discussed thoroughly.
3.2 Research Questions

This study has three research questions, two of which are embedded in additional analysis by ethnicity. Each research question utilizes data obtained from an administered survey.

**Research Question 1.** What is the association between douching frequency and self-reported STD infection among racial and ethnic groups?

Research Question 1 was designed to determine if an association exists between the frequency of douching and contracting sexually transmitted diseases. This question has the following desired outcome: Women who douche will have significantly higher rates of STD infection (HIV, AIDS, gonorrhea, chlamydia, HPV, syphilis, pubic lice, genital herpes, BV, and *Trichomonas vaginalis*) than women who do not practice vaginal douching. Rates will differ among each population, with the highest rates of STD infections to the lowest rates of STD infections in the following order: African American, Latina, and Asian American college-aged women.

**Research Question 2.** What is the association between douching frequency and condom usage?

Research Question 2 focuses on the frequency of vaginal douching and condom usage rates. The outcome of this question will determine if a statistically significant association between higher rates of vaginal douching and lower rates of condom usage is present. Women who participate in risky sexual activities will be more likely to use vaginal douching as an alternative to condom usage. These rates will be examined among the following three ethnicities: African American, Latina, and Asian American college-aged women.
**Research Question 3.** What is the frequency of douching practices among college-aged women by racial and ethnic groups?

Research Question 3 focuses on how the survey participant’s frequency of douching is associated with the reason why she douches. Reasons why women douche, as listed in the survey, include: 1) to prevent pregnancy, 2) to prevent vaginal odor, 3) to be like a relative/friend who douches, 4) to comply with a boyfriend/partner’s wishes, 5) to cleanse, and 6) to prevent contracting sexually transmitted diseases. The result of testing Research Question 3 is that the association among the reasons why women practice vaginal douching and the frequency of douching will be statistically significant. Again, rates will differ among the populations studied in the subsequent order: African American, Latina, and Asian American college-aged women. The following variables were compared with one another to determine the correlation.

**3.4 Study Design**

This study was designed to obtain information through internet or in-person. The researcher used a convenience sample that totalled 187 women. The survey contained 34 questions that were both open-and close-ended. This research was conducted at a large Midwestern university from February 2009 to September 2009.

**3.5 Study Participants**

Participants for this study included women between the ages of 18 and 26 years old who self-reported their racial and ethnic classification (i.e., African American, Asian American, and Latina) attending a Midwestern university. Exclusion criteria for this study includes: any women not attending the Midwestern university, unwillingness to participate, being younger than 18 years old, being older than 26 years old, and not
falling into the previously mentioned populations. The participants can identify their
student classification as a freshman, sophomore, junior, senior, graduate student, or post-
doctoral student. The study design was approved by the University of Illinois at Urbana-
Champaign Institutional Review Board on February 5, 2009 and an extension was
received on August 4, 2009. (see Appendices A and B).

3.6 Survey Instrument

The survey used in this research was modeled after several surveys used in
research experiments in past years. Questions were selected to obtain a better
understanding of how vaginal douching affects the age demographic selected. Survey
participants were not required to include any identifiable information to ensure
confidentiality. Surveys were completely anonymous and required no identifiable
information in order to participate. The survey was issued both online and in paper form;
both surveys were identical. Every question was answered by the participant, including
the self-reported practice of vaginal douching and STD infection. Participants could
either complete the survey on paper or online. An informed consent form was signed by
each woman in order to proceed to the survey questions (see Appendix C).

Originally, surveys were to be conducted solely online. An online survey tool was
utilized to create and issue the online surveys. This tool was also able to store all the
results from the online survey until the analysis. The survey tool was completely secure
and allowed anyone with the link to participate, with no need to enter identifiable
information (i.e., name, email address, university identification, and so forth). Flyers with
the link to the survey were posted throughout the university’s campus at various
locations, such as the student center, libraries, and other campus buildings.
Announcements regarding survey participations were also made in classrooms. Flyers with the link to the survey were also passed around during the announcement in order for women in the class to obtain the link.

To increase participation, paper surveys (see Appendix D) were handed out to college-age women who fit the inclusion criteria on campus. The researcher issued surveys at the university libraries, student center, and campus quad by approaching participants with the research tool. The researcher approached women, based on phenotypic characteristics, and explained the topic of the survey in detail, and then asked if these women wanted to participate in the survey. The eligibility criteria included women 1) currently attending the university, 2) between the ages of 18 and 26, and 3) self-identify as African American, Asian American/Pacific Islander, or Latina. Upon answering “yes” to the screening questions, the women were asked to review and sign the informed consent form prior to administering the questionnaire.

3.7 Study Measures

Demographics.

The study focused on minority women. The descriptive statistics of the women were observed along with their age and year in school. Five categories of race with which the participants could identify included 1) African American, 2) Asian American/Pacific Islander, 3) Native American, 4) Latina, and (5) International. Of the five categories on the survey, all groups participated except for those of Native American descent. Women that selected more than one race were considered “Multiracial” and women that were not U.S. citizens and selected “International”.
The following sexually transmitted diseases were used as study measures in this study: 1) HIV, 2) AIDS, 3) gonorrhea, 4) chlamydia, 5) HPV, 6) syphilis, 7) pubic lice, 8) genital herpes, 9) *Trichomonas vaginalis* and 10) *Bacterial vaginosis*. Each STD or BV was self-reported by the participant, as the investigator had no access to health records.

**Sexual Risk Behavior.**

Condom usage was used to determine the presence or lack of sexual risk behavior. The college-age women were asked whether condoms were used as a method to prevent contracting STDs. Participants provided the following responses: “yes,” “no,” or “I don’t have sex.”

**Douching Behavior.**

This study is centered around the practice of vaginal douching. In order to clarify the term “douching,” participants were given the definition of douching. According to the U.S. Department of Health and Human Services (2010),

> The word “douche” means to wash or soak in French. Douching is washing or cleaning out the vagina (also called the birth canal) with water or other mixtures of fluids. Usually douches are prepackaged mixes of water and vinegar, baking soda, or iodine. Women can buy these products at drug and grocery stores. The mixtures usually come in a bottle and can be squirted into the vagina through a tube or nozzle. (2010)

To determine if women were practicing vaginal douching, they were asked if vaginal douching products were being used.

**3.8 Data Analysis**

To analyze the data collected in this study, Version 17.0 of SPSS (Statistical Package for the Social Sciences) was utilized. The dataset included 187 participants all
of whom were included in this study. Results were determined by univariate and bivariate analysis (i.e., frequencies and cross-tabulations). Chi-square tests were also conducted, specifically the asymptotic significance (2-sided) results with alpha at .05.

Douching frequency was determined by the women identifying with one of the following frequencies douching: 1) every day, 2) twice a week, 3) every other week, and 4) once a month.

3.9 Summary

This chapter discussed the three research questions, methods, hypotheses, study design, study participants, survey instrument, study measures, and data analysis that were associated with this primary data collection.
CHAPTER IV
RESULTS

4.1 Introduction

Using SPSS version 17.0, the hypotheses previously stated in Chapter III were tested to determine the associated statistical significance. The following variables were analyzed with frequency of douching: demographics, STDs, and sexual risk behavior.

4.2 Study Participants

Demographics.

Table 1 represents the demographic characteristics of the participants. The study participants ranged from 18 to 26 years of age. The age group with the highest representation was 20-year old college women 20 (n = 53; 28.3%). Juniors represented the highest school classification represent (of n = 47; 25.1%). African American college-age women had the highest rate of participation (n = 74; 39.6%). See Table 1 for breakdown of the participants in this study.

Sexually Transmitted Diseases.

College-age women were asked if they were diagnosed with the following STDs: HIV or AIDS, chlamydia, HPV, genital herpes, bacterial vaginosis, gonorrhea, syphilis, and Trichomoniasis vaginalis. It is likely that a few college-age women may report more than one STD. Twenty college-age women (9%) reported contracting one or more STDs. Results from the chi-square test indicated a 2-sided asymptotic significance rate of 0.68; therefore these results were not significant. Table 2 reflects the frequencies of the STDs.
Sexual Risk Behaviors.

The use of condoms was measured to determine sexual risk behaviors. Cross-tabulations and chi-square tests were conducted to compare rates among racial and ethnic groups. A total of six responses were missing from this question. The chi-square asymptotic significance rate was .05 meaning that the majority of women used condoms as a means of protection from sexually transmitted diseases.

Use of Douching Products.

College-aged women were asked whether or not they douche. Women who douched were asked the frequency of douching. One participant did not respond to the question in the survey, therefore 186 participants responded. The 2-sided asymptotic significance was .05. A total of 1% (n = 10) of the women in the study participated in vaginal douching. Some of the products that women acknowledged using as douches were water, vinegar, and name brand douches. Table 3 shows the frequencies of using of douching products.

Frequency of Douching.

The frequency of douching practices was measured among the various racial and ethnic groups in this study for comparison. The ethnic groups that practiced vaginal douching were utilized in this frequency table. Since Asian American, International, and multi-racial women did not practice vaginal douching in this study, they have a frequency of zero. Of the African American women who douched, the majority of them did so once a month (n = 5). Of the two Latina women who practiced vaginal douching, 50% did every day and 50% did twice a week. Both ethnicities reflected a .000 2-sided asymptotic
significance. Table 3 displays the frequency of douching rates as that frequency relates to each ethnicity.

**Use of Douching Products, Ethnicity, and STD Rates.**

Cross-tabulations were conducted to compare the use of douching products with STD rates. Of the African American participants, one woman did not complete the questions about STDs. A total of 15 women (20.3%) identified as douching and 4 women (5.5%) identified as douching and having an STD as well. The STDs the female college students reported included chlamydia, HPV, and bacterial vaginosis (BV). When looking at the women who did not douche, 12 women (16.2%) identified as having HIV, chlamydia, human papillomavirus (HPV), bacterial vaginosis, and *Trichomoniasis vaginalis*.

In results from the Latina participants, none of the women who practiced vaginal douching contracted any STDs. On the contrary, Latina women who did not douche had higher rates of sexually transmitted diseases. Three cases of sexually transmitted diseases were reported: chlamydia, HPV, and genital herpes (6.9%). Asian American, International, and multi-racial women did not have any self-reported STDs, therefore they each had a 0% rate. Table 4 distinguishes the difference between the women who douched and their STD rates.

**Use of Douching Products, Use of Condoms, and Ethnicity.**

Only one African American female (1.4%) who practiced vaginal douching stated that she did not use condoms as a means of protection during sexual intercourse. No women in the Latina population practiced vaginal douching in conjunction with refraining from condom usage as a means of protection during sexual intercourse. Cross-
tabulations reflect ethnicity, use of douching products, and use of condoms. Since the other populations used in this study did not practice vaginal douching, results for this cross-tabulation was 0%. Table 5 displays the rates of women who douche and use condoms.

4.3 Research Question Results

**Research Question 1.**

Research Question 1 asked if a relationship existed between the frequency of college women between the ages of 18 and 26 who douche and whether or not they contracted a sexually transmitted disease. The author hypothesized that women who douched will have significantly higher rates of STD infection (HIV, AIDS, gonorrhea, chlamydia, HPV, syphilis, pubic lice, genital herpes, bacterial vaginosis, and *Trichomonas vaginalis*) than women who did not practice vaginal douching. The author also hypothesized that these rates will differ by race and that college-age African American women will have the highest self-reported STDs. This will be followed by Latina, then Asian American women, who will have the lowest self-reported STDs. In addition, college-age women who douched will also have the highest self-reported STDs.

Though the results reflected the highest to lowest rates of STD infections as previously postulated, the results from the frequency and chi-square tests did not confirm that douching is related to contracting an STD. Again, since African American and Latina women were the only groups to self-report vaginal douching, only their results were analyzed for this hypothesis. The chi-square results for the African American women were .94, and the results for the Latina women were .96. Since results of .05 or less were necessary, the author was not able to use this information to accept the null hypothesis. In
this case, the null hypothesis is rejected and the alternative hypothesis is accepted, which states that there will not be significantly higher rates of STD infection in women who do not practice vaginal douching. The author hypothesized that vaginal douching will have no effect on the STD rates of women in this study.

**Research Question 2.**

Research Question 2 asked if a relationship existed between douching among 18- to 26-year-old college women and condom usage. The author hypothesized that women who participated in risky sexual activities will be more likely to use vaginal douching as an alternative to condom usage. These rates will also differ among each of the populations in the following order: African American, Latina, and Asian American women. No statistical significance occurred with lower condom usage and higher rates of vaginal douching. In both African American and Latina douching groups, more women made their partner use a condom than those who did not make their partner use a condom. Only one African American female who practiced vaginal douching reported not using a condom; the Latina women made no such reports.

In this case, the null hypothesis will also be rejected and the alternative hypothesis is accepted, that is, no statistically significant association will occur between higher rates of vaginal douching and lower rates of condom usage. Vaginal douching will have no effect on the rates of condom usage. This is true for all races included in this study.

**Research Question 3.**

Research Question 3 hoped to find a relationship between the frequency of college women between the ages of 18 and 26 who douch and the reasons women douche. The postulated outcome is that a statistically significant association will occur
among the reason why women practice vaginal douching and the frequency of douching.

Rates will differ among the populations studied in the following order: African American, Latina, and Asian American women. The following reasons were given by participants as to why they practice vaginal douching: 1) to prevent pregnancy, 2) to prevent vaginal odor, 3) to be like a relative/friend who douches, 4) to comply with a boyfriend/partner’s wishes, 5) to cleanse, and 6) to prevent contracting sexually transmitted diseases. Participants could also select an “other” option in the event that they had a different reason to douche.

4.4 Summary

Univariate and bivariate analyses were conducted in SPSS version 17.0. The three research questions were created to determine if there was a correlation between vaginal douching and sexually transmitted diseases. Some significant data resulting from the study was obtained by conducting this research. Research limitations and suggestions for future research will be discussed in Chapter V.
CHAPTER V
DISCUSSION

5.1 Introduction

The purpose of this study was to compare the practices of vaginal douching among minority college-aged women attending a large Midwestern university in Illinois. This was done by examining douching frequency and its association with sexually transmitted diseases. This chapter discusses the study’s findings, limitations, strengths, and recommendations for future research on this topic.

5.2 Study Findings

Overall, there were some significant data/results achieved in this study. Only African American and Latina women identified themselves as vaginal douchers (20.3%) when compared to other racial and ethnic groups. These two populations, who had the highest rates of vaginal douching in this study, were similar to previous studies conducted (Annang et al., 2006; Cottrell, 2006a; Cottrell, 2008; Funkhouser et. al, 2002). None of the Asian American women identified with vaginal douching in this study, which may explain the lack of studies done on this population. The few studies done on vaginal douching in Asian Americans may have concluded that Asian American women are not significantly affected by douching. The douching products that were popular with the women who douched in this study were water, vinegar, and name brand douches. In addition, 5.5% of the overall sample self-identified as having had or currently having a sexually transmitted disease. These results are low compared to research previously discussed in chapter 2.
Research Question 1 asked if a relationship existed between the frequency of college-age women who douche and whether or not they contracted a sexually transmitted disease. This question was not supported by the data obtained in this study. Despite other studies that found an association between sexually transmitted diseases and different populations, the number of self-reported STDs in this study were not large enough to be significant (CDC, 2009a, Cottrell, 2006b). Of the women who stated that they douched and had a sexually transmitted disease, only four women (African American) currently or in the past have had a sexually transmitted disease. The diseases reported by these women were chlamydia, human papillomavirus (HPV), and bacterial vaginosis. In this study, not enough women who douched and had a sexually transmitted disease proved that douching is associated with vaginal douching. In the study by Annang et al. (2006), no statistically significant associations occurred between douching frequency and STD infection.

Research Question 2 asked if a relationship existed between douching among college-age women and condom usage. Condom usage was used to measure sexual risk behavior. The majority of the sample self-reported condom use as a method of preventing sexually transmitted diseases. Less than 10% of the total sample (8.6%) stated that they did not use condoms. Women who were not sexually active were not included in these numbers. Of the sample of women who did not use condoms as a means of protection, only one woman also practiced vaginal douching. No association occurred between the women who practiced vaginal douching and those who did not use condoms as a means of protection; the majority of women who were sexually active did use condoms.
Research Question 3 hoped to find a relationship between the frequency of college-age women who douched and the reasons why they did so. The reasons stated by women for engaging in vaginal douching were 1) to prevent pregnancy, 2) to prevent vaginal odor, 3) to be like a relative/friend who douches, 4) to comply with a boyfriend/partner’s wishes, 5) to cleanse, and 6) to prevent contracting sexually transmitted diseases. The frequency of douching was studied to see if a woman’s reasoning for douching will cause her to douche more often. The majority of women who douched to prevent odor did so once a month. This reason was the same for the women who self-reported douching for cleansing purposes.

5.3 Limitations of the Study

This study had several limitations. By surveying women who were in college, the research was slightly biased. Several studies on women’s sexual health have stated that women who have a higher education will be less likely to douche (Aral et al., 1992; Funkhouser et al., 2002; Nicoletti, 2006). By choosing the college students as the sample size, the number of women who practiced douching was bound to be minimal. If the sample size included all women aged 18 to 26 years old versus only college-age students, the results may have been more varied. Opening survey participation to these women may also have increased the results of the number of women who participated in vaginal douching. Another limitation of the study was the use of paper surveys. Those women who were approached to participate in the paper survey may not have felt completely comfortable taking the survey while the investigator was present. Though an alternate to this dilemma was having the online survey, some of the participants may have been hesitant to be completely honest while completing the paper survey. The number of
women who were selected to participate in the survey may have also been a limitation. Though the number of women were chosen to reflect 5% of each population on campus, the small number of participants may have been too small to collect any significant data. Perhaps by trying to collect data from 10% or 20% of each population, the data would have been more relevant to this research.

5.4 Study Strengths

A goal of this study was to understand the reasons college-age women vaginal douche. With such high rates of sexually transmitted diseases among women aged 18 to 26, it was important to understand why women still practice vaginal douching. A second strength of this study was having both an online survey and the paper format. Having both forms of survey gave women the chance to take the survey in a more confidential setting. A third strength of this study was the inclusion of Asian American women. As previously stated, not many studies have focused on vaginal douching among the Asian American population. Though the results from the Asian American women were not significant to this research, by including this population we were able to have some information gathered for other researchers to view or use.

5.5 Recommendations

The results of this study were not significant to accept or refute that vaginal douching was harmful. Though previous studies have been conducted on the effects of vaginal douching, more research must be conducted to conclude whether douching is harmful or helpful. Research on vaginal douching must continue until all risks or benefits are known for certain. By surveying the women, participants will be able to learn of potential dangers of douching in the process. Education on the effects of douching in
women is important. As previous studies have shown, the higher the level of education, the less likely a woman is to practice vaginal douching (Aral et al., 1992, Funkhouser et al., 2002, Nicoletti, 2006). To make certain that those women who need the education are receiving it, research must continue among women who do not have a high level of education. By continuing this form of research in the lower socioeconomic communities, women will benefit from whatever information they take from the study. If research shows that women of a lower socioeconomic status are more likely to douche, then arguably ethnic minorities are disproportionately affected by STDs.

If this study is to be replicated, the researcher would suggest that a larger sample size is used to incorporate more reports of vaginal douching by the participants. A second recommendation for similar research is to open up the survey to women in the community, as well as on the university campus. To get the participants in the community, I would suggest the researcher(s) go to local churches, malls, and shopping centers to issue the surveys to women within the community.

5.6 Summary

In conclusion, the results for this study were not significant. Though women stated that they practiced vaginal douching and some women had/have an STD, not enough participants admitted to both the practice of douching and having an STD. More research must be conducted on this age group and in an academic setting due to the lack of studies that currently exist within these areas.
<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
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<td>African American</td>
<td>74</td>
<td>39.6</td>
</tr>
<tr>
<td>Asian American</td>
<td>50</td>
<td>26.7</td>
</tr>
<tr>
<td>Latina</td>
<td>48</td>
<td>25.7</td>
</tr>
<tr>
<td>International</td>
<td>12</td>
<td>6.4</td>
</tr>
<tr>
<td>Multi-Racial</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 years</td>
<td>40</td>
<td>21.4</td>
</tr>
<tr>
<td>19 years</td>
<td>31</td>
<td>16.6</td>
</tr>
<tr>
<td>20 years</td>
<td>53</td>
<td>28.3</td>
</tr>
<tr>
<td>21 years</td>
<td>31</td>
<td>16.6</td>
</tr>
<tr>
<td>22 years</td>
<td>10</td>
<td>5.3</td>
</tr>
<tr>
<td>23 years</td>
<td>5</td>
<td>2.7</td>
</tr>
<tr>
<td>24 years</td>
<td>10</td>
<td>5.3</td>
</tr>
<tr>
<td>25 years</td>
<td>2</td>
<td>1.1</td>
</tr>
<tr>
<td>26 years</td>
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<td>2.7</td>
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<tr>
<td><strong>Education Level</strong></td>
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</tr>
<tr>
<td>Sophomore</td>
<td>39</td>
<td>20.9</td>
</tr>
<tr>
<td>Junior</td>
<td>47</td>
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</tr>
<tr>
<td>Senior</td>
<td>37</td>
<td>19.8</td>
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Table 2. Condom use and reported Sexually Transmitted Disease, by Race (N=187)

<table>
<thead>
<tr>
<th></th>
<th>African American</th>
<th>Asian American</th>
<th>Latina</th>
<th>International</th>
<th>Multi-racial</th>
<th>$\lambda$ (p)</th>
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</thead>
<tbody>
<tr>
<td><strong>Condom Use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21.1 (0.05)</td>
</tr>
<tr>
<td>Yes</td>
<td>29</td>
<td>13</td>
<td>17</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Not Sexually Active</td>
<td>7</td>
<td>10</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Reported STD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24.0 (0.68)</td>
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<tr>
<td>HIV</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Chlamydia</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>HPV</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Genital Herpes</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Bacterial Vaginosis</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
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<tr>
<td>Trichomoniasis Vaginalis</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Multiple STDs</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>31</td>
<td>26</td>
<td>24</td>
<td>6</td>
<td>2</td>
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</table>
Table 3. Douching Product Use and Reported Frequency of Douching, by Race

<table>
<thead>
<tr>
<th></th>
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<th>Asian American</th>
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<th>International</th>
<th>Multi-racial</th>
<th>λ (p)</th>
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<td><strong>Douching Product Use</strong></td>
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<tr>
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<td>58</td>
<td>50</td>
<td>44</td>
<td>12</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Frequency of Douching</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25.4</td>
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<tr>
<td>Everyday</td>
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<td>0</td>
<td>2</td>
<td>0</td>
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</tr>
<tr>
<td>Twice a week</td>
<td>1</td>
<td>0</td>
<td>2</td>
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<tr>
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<td>Once a month</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
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<td><strong>Reason for douching</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevent pregnancy</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Prevent odor</td>
<td>11</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Friend/relative douches</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Boyfriend/partner desires it</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Cleansing</td>
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<td>3</td>
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*Multiple answers accepted
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<tr>
<th></th>
<th>Sexually Transmitted Diseases</th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>HIV</td>
<td>Chlamydia</td>
<td>HPV</td>
<td>Genital Herpes</td>
<td>Bacterial Vaginosis</td>
<td>Trichomoniasis Vaginalis</td>
<td>Multiple STDs</td>
<td>None</td>
</tr>
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<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Asian American</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Latina</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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Table 5. Women Who Douche and Condom Use, by Race

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<tr>
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<th>I don’t have sex</th>
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<tr>
<td><strong>African American</strong></td>
<td>13</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>9.17 (0.17)</td>
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<td><strong>Asian American</strong></td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Latina</strong></td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.41 (0.04)</td>
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<tr>
<td><strong>International</strong></td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Multi-racial</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Figure 1. Advertisement for Douching

Love-quiz . . . For Married Folks Only

WHY DOES SHE SPEND
THE EVENINGS ALONE?

A. Because she keeps her home immaculate, looks as pretty as
she can and really loves her husband, BUT she neglects that
one essential . . . personal feminine hygiene.

Q. Is this really important to married happiness?

A. Wives often lose the precious air of romance, doctors say, for
lack of the intimate cleanliness dependent on effective douching.
For this, look to reliable "Lysol" brand disinfectant.

Q. Is "Lysol" safe and gentle as well as extra effective?

A. Yes, the proved germicidal efficiency of "Lysol" requires only
a small quantity in a proper solution to destroy germs and
odors, give a fresh, clean, wholesome feeling, restore every
woman's confidence in her power to please.

Q. How about homemade douching solutions, such as salt and soda?
A. They have no comparison with the scientific formula of "Lysol"
which has proved efficiency in contact with organic matter.

ALWAYS USE "LYSOL" in the douche, to help give the assurance that comes
with perfect cleanliness . . . confidence in "romance appeal!"

Check these facts with
your doctor

Many doctors recommend "Lysol," in the proper solution, for Feminine
Hygiene. Non-toxic, gentle.

"Lysol" is non-injurious to deli-
crate membrane. Its clean, anti-
septic odor quickly disappears.
Highly concentrated, "Lysol" is
economical in solution. Follow
easy directions for correct douch-
ing solution.

For Feminine
Hygiene—always use
"Lysol"

FREE BOOKLET! For the true public health interest
in cleanliness and the highest degree of personal happiness, send for a free booklet,

NAME ____________________________

STREET ____________________________

CITY ____________________________ STATE ____________________________
February 5, 2009

Idethia Harvey  
Community Health  
127 Huff Hall  
MC-588

RE:  Perceived Health Risks of Vaginal Doucheing Among Women of Color  
IRB Protocol Number: 09307

Dear Idethia:

Thank you for submitting the completed IRB Application for Exemption form for your project entitled Perceived Health Risks of Vaginal Doucheing Among Women of Color. Your project was assigned Institutional Review Board (IRB) Protocol Number 09307 and reviewed. The research activities involving human subjects are exempt from Title 45 – Public Welfare, Part 46 – Protection of Human Subjects, Subpart A – Federal Policy for the Protection of Human Subjects per the following category:

45 CFR 46.101(b)(2): This exemption applies since participants will complete an anonymous internet based survey and the information is recorded in such a manner that participants cannot be linked to their responses.

This determination of exemption only applies to the research study as submitted. Exempt protocols are approved for a maximum of three years. Please note that additional modifications to your project need to be submitted to the IRB for review and exemption determination or approval before the modifications are initiated. To submit modifications to your protocol, please complete the IRB Research Amendment Form (see http://irb.illinois.edu/?p=forms-and-instructions/initial-application.html).

We appreciate your conscientious adherence to the requirements of human subject research. If you have any questions about the IRB process, or if you need assistance at any time, please feel free to contact me or the IRB Office, or visit our website at http://www.irb.illinois.edu.

Sincerely,

Sue Keehn, Director, Institutional Review Board

c: Darcelle Dieudonne
APPENDIX B: IRB APPROVAL FORM
UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Office of the Vice Chancellor for Research
Institutional Review Board
228 East Green Street
Suite 205
Champaign, IL 61820

August 4, 2009

Idethia Harvey
Community Health
127 Huff Hall
1206 South Fourth Street
M/C 588

RE:  Perceived Health Risks of Vaginal Doucheing Among Women of Color
IRB Protocol Number: 09307

Dear Idethia:

Thank you very much for forwarding the modifications to your project entitled Perceived Health Risks of Vaginal Doucheing Among Women of Color. I will officially note for the record that these minor modifications to the original project, as noted in your correspondence received May 19, 2009, reducing number of participants from 240 to 150 and adding paper and pencil surveys, have been approved. It has been determined that the research activities described in this application still meet the criteria for exemption at 45CFR46.101(b)(2).

This determination of exemption only applies to the research study as submitted. Exempt protocols are approved for a maximum of three years. Please note that additional modifications to your project need to be submitted to the IRB for review and exemption determination or approval before the modifications are initiated. To submit modifications to your protocol, please complete the IRB Research Amendment Form (see http://irb.illinois.edu/7q-forms-and-instructions/research-amendments.html).

We appreciate your commitment to university policies and regulations regarding human research. If you have any questions about the IRB process, or if you need assistance at any time, please feel free to contact me, the IRB Office, or visit our website at http://www.irb.illinois.edu.

Sincerely,

Sae Keel, Director, Institutional Review Board

c: Darcelle Dieudonne
APPENDIX C: INFORMED CONSENT FOR STUDY PARTICIPANTS

Informed Consent

Feminine Hygiene and Sexual Practices Survey

Responsible Principal Investigator: Idethia Shevon Harvey

Other Investigator: Darcelle Dieudonné

1. **Purpose of the Study:** To compare the practices of feminine hygiene and sexual practices among minority female students at the University of Illinois at Urbana-Champaign. The women of color in this study include African American/Black women, Latina/Hispanic women and Asian American/Pacific Islander women. We are observing the feminine hygiene and sexual practices of women aged 18-26. It is hypothesized that feminine hygiene plays a role in the contraction of sexually transmitted infections.

2. **Procedures to be followed:** You are asked to take an online survey. This survey is not timed; therefore, you have a much time as you need to complete it. There are 34 questions in this survey and it should take you approximately 20 minutes to complete.

3. **Discomforts and Risks:** As a participant, you may experience strong feelings that may be either positive or negative when answering questions on this survey. If at anytime you feel uncomfortable completing this survey, you can refuse to answer a question, skip a question, or stop at anytime. By participating in this survey, you are at minimal risk meaning that the risks incurred will be no greater than those experienced in daily life.

4. **Benefits:** This study will help to understand the correlation between feminine hygiene and sexual practices among female students aged 18-26. The results of this study could help determine if feminine hygiene practices among female students do affect their susceptibility to contracting sexually transmitted infections.

5. **Statement of Confidentiality:** This survey is completely anonymous. Any person participating in this survey will not be identified. Survey responses will be kept in Toolbox, an online survey database through the University of Illinois. Any printed information will be kept in a graduate office only accessible with a key. If this data is published, no results will be identifiable as the results will be anonymous.

6. **Whom to contact:** If you have any questions, comments, or concerns regarding this research, please contact Darcelle Dieudonné at dieudonn@illinois.edu or 708-
7. **Compensation:** There is no compensation for the participation in this research.

8. **Cost of participating:** There will be no cost to participate in this research.

9. **Voluntariness:** Participation in this research is completely voluntary and you are able to stop taking the survey at anytime. The decision to participate in this survey has no effect on your grades, status or future status at the University of Illinois at Urbana-Champaign.

10. **Dissemination:** Dr. Idethia Shevon Harvey and Darcelle Dieudonné have the authority to disseminate the data retrieved in this study for Darcelle Dieudonné’s Masters thesis and for publications in professional journals, and conferences.

- I am 18 years of age or older
- I have thoroughly read and understood the terms of this survey
- I voluntarily agree to participate in this survey

You do not need to sign this form and you may keep this form for your own personal records. If you do not want to participate in this survey, you may submit the blank survey into the envelope.
Feminine Hygiene and Sexual Practices Survey

1. Please select your ethnicity
   ____Black/African American
   ____Asian American/Pacific Islander
   ____Native American
   ____Latina American
   ____International

2. Please select your age
   ____18
   ____19
   ____20
   ____21
   ____22
   ____23
   ____24
   ____25
   ____26

3. Please select your year in school
   ____Freshman
   ____Sophomore
   ____Junior
   ____Senior
   ____Graduate Student
   ____Post doctoral student

According to the U.S. Department of Health and Human Service, the word "douche" means to wash or soak in French. Douching is washing or cleaning out the vagina (also called the birth canal) with water or other mixtures of fluids. Usually douches are prepackaged mixes of water and vinegar, baking soda, or iodine. Women can buy these products at drug and grocery stores. The mixtures usually come in a bottle and can be squirted into the vagina through a tube or nozzle (http://www.4woman.gov/faq/douching.cfm#A).

4. Do you use vaginal douching products? (if no, skip to question 9)
   ____Yes
   ____No
5. If yes, what kind of douche do you use? (Check all that apply)
   ____Vinegar
   ____Home made mixture
   ____Store bought douche
   ____Other
   ____Bleach
   ____Water

6. If yes, how often do you douche?
   ____Everyday
   ____Twice a week
   ____Every other week
   ____Once a month

7. If yes, why do you practice vaginal douching? (Check all that apply)
   ____To prevent pregnancy
   ____To prevent vaginal odor
   ____Because a relative/friend does
   ____My boyfriend/partner wants me to
   ____For cleansing
   ____To prevent contracting sexually transmitted infections
   ____Other

8. How old were you when you first douched?
   ____Younger than 11
   ____12-14
   ____15-17
   ____18-20
   ____21-23
   ____24-26

9. Do you use any of the following as a means to clean your vaginal area? (Check all that apply)
   ____Soaps
   ____Suppositories
   ____Towelettes
   ____Powders
   ____Feminine deodorants
   ____Feminine Sprays
   ____Feminine washes
   ____Water
   ____Other
10. Which of the following do you use? (Check all that apply)
   ____Sanitary napkins
   ____Tampons
   ____Panty liners
   ____Sanitary napkins with towelettes

11. Do you know anyone else that practices vaginal douching? (if not, skip to question 13)
   ____Yes
   ____No

12. If so, who? (Check all that apply)
   ____Mom
   ____Grandmother
   ____Friend
   ____Guardian
   ____Other (list who)

13. Are you sexually active by way of vaginal sex?
   ____Yes
   ____No

14. If yes, at what age did you first have sex?
   ____Under 12
   ____13-15
   ____16-18
   ____18 and older

15. Within the last 7 days, how often have you had vaginal sex?
   ____0
   ____1-2
   ____3-5
   ____6 or more

16. Do you use condoms as a method to prevent contracting sexually transmitted infections?
   ____Yes
   ____No
   ____I don’t have sex

17. What type of condoms do you use?
   ____Male
   ____Female
   ____None
18. If you do not use condoms, please state why you do not use them. (Check all that apply)
   ___ Don’t know where they are
   ___ Can’t afford them
   ___ Don’t like/want to use them
   ___ They are dangerous
   ___ Other (please specify)

19. Have you taken or are you currently taking a sexual education class?
   ___ Yes
   ___ No

20. If so, when? (Check all that apply)
   ___ Before age 12
   ___ Between ages 13 and 17
   ___ Have taken one after 18
   ___ Taking one now

21. When was the last time you went to see a doctor regarding sexual health issues?
   ___ Within the last 3 months
   ___ Within the last 6 months
   ___ Within the last year
   ___ I have never been to the doctor regarding a sexual health issue

Please rate your knowledge of each topic with:
1=knowing nothing, 2=knowing very little, 3=knowing some, 4= knowing a very good amount, 5=knowing a lot about this topic

<table>
<thead>
<tr>
<th>Topic</th>
<th>Know nothing</th>
<th>Know some</th>
<th>Know a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. HIV</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>23. AIDS</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>24. Gonorrhea</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>25. Chlamydia</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>26. Human papillomavirus (HPV)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>27. Syphilis</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>28. Crabs</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>29. Genital Herpes</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
30. Bacterial Vaginosis 1 2 3 4 5

31. Trichomonas Vaginalis 1 2 3 4 5

32. Have you ever contracted an STI?
   ___ Yes
   ___ No

33. Have you been told by a doctor or other healthcare provider that you have an STI?
   ___ yes
   ___ no

34. If yes, which STI did you contract? (check all that apply)
   ___ HIV
   ___ AIDS
   ___ Gonorrhea
   ___ Chlamydia
   ___ Human papillomavirus (HPV)
   ___ Syphilis
   ___ Genital Crabs/Pubic Lice
   ___ Genital Herpes
   ___ Bacterial Vaginosis
   ___ Trichomoniasis Vaginalis

***Thank you for your participation in this survey***
References


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http://mum.org/vagdouch.htm


