USING THE TRANSTHEORETICAL MODEL TO EVALUATE THE EFFECTIVENESS OF PEER HEALTH EDUCATION AND SEXUAL HEALTH

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DEDICATION

This thesis is dedicated to my friends and family for their love and support.
ABSTRACT OF THE THESIS

Using the Transtheoretical Model to Evaluate the Effectiveness of Peer Health Education and Sexual Health

by

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Master of Public Health with a Concentration Health Promotion and Behavioral Science
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The purpose of this study was to evaluate the peer health education gynecological (GYN) workshops at San Diego State University’s Health Promotion Department. The study examined the preliminary impact of GYN workshops (information on women’s health exams and birth control options) on college students’ intentions to get birth control and complete women’s health exams. Current peer health educators (PHEs) were trained on how to facilitate a successful workshop. PHEs were trained by taking a required 3-unit class on how to be a peer educator followed by specific training on the GYN workshops. Each workshop lasted approximately 60 minutes. The study sample population consisted of a convenience sample of students attending the GYN workshops. The PHEs leading the workshops recruited study participants to take the pre- and post- evaluations. The workshops served as an intervention to determine changes in: knowledge of birth control methods, expectations of health exams, intentions to see a physician for a woman’s health exam and/or birth control. Self-efficacy for choosing a method of birth control, knowing when to schedule a woman’s health exam, and ability to schedule a woman’s health exam were also assessed. The Transtheoretical Model (TTM) informed the conceptualization of the intervention, evaluation, and data analysis. The current study used validated surveys assessing stages of change by evaluating intention to make an appointment to see a physician. All variables were measured in the pre- and post- evaluations except for the questions on intentions to see a physician after the workshop, which were only asked in the post-evaluation.

The results suggest increases in participants’ self-efficacy in their ability to schedule women’s health exams (p<.001). Significant increases in some of the knowledge-based questions were also found. Of all participants (n=56), 87.5% planned to see a physician in the next 3 months for a birth control prescription and 78.6% planned to see a physician for a women’s health exam in the next 3 months at the end of the workshop.
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CHAPTER 1

INTRODUCTION

STATEMENT OF THE PROBLEM

High-risk sexual behaviors can lead to sexually transmitted infections (STIs) and unintended pregnancies that may compromise students’ academic success (Scholly, Katz, Gascoigne, & Holck, 2005). Yet, when choosing birth control, not all women know which type is the most effective method for them. Each method has a probability for the occurrences of getting pregnant, contracting STIs, or experiencing side effects. Users should be able to decide which type of contraception will work best for them (Delavande, 2008). Risky sexual behavior, including a high number of sexual partners, influences of drugs or alcohol on sexual decision-making, and not using contraception consistently or correctly, increases the risk of STIs (Pollack, Boyer, & Weinstein, 2013). Inconsistent use of contraceptives contributes to the high rate of adolescent pregnancies in the United States (Lara-Torre, Spotswood, Correia, & Weiss, 2011).

Unintended pregnancies increase social and health problems for both the baby and mother compared to planned pregnancies (Bryant, 2008). Risks of unplanned pregnancies include infant mortality, maternal mortality, pregnancy related complications, low birth weight, economic consequences including reduced employment options, and delayed prenatal care (Bryant, 2008; Shulman, 2011). Rates of unintended pregnancies in the United States have remained high for a developed country (Phares, Cui, & Baldwin, 2012). Almost half the pregnancies in the U.S. are unintended (Brown, Ottney, & Nguyen, 2011; Delavande, 2008). Half of all unintended pregnancies occur in couples that claim to have used some form of contraception (Brown et al., 2011). This may be because contraceptives are often used inconsistently, increasing failure rates and resulting in unintended pregnancies (Phares et al., 2012). A study conducted by Mosher, Martinez, Chandra, Abama, and Wilson (2004) examined data from the National Surveys of Family Growth (NSFG) and found that
contraceptive use among women ages 15-44 decreased between 1995-2002. In the same study, teenagers 15-19 years of age were found to be the least likely to use contraceptives followed by women ages 20-24 (Bryant, 2008).

Fear of side effects from hormonal birth control methods is one of the top three barriers to using contraception in the United States. Many women have the misconception that hormonal methods may decrease their overall health and that hormonal birth control methods are unsafe (Shulman, 2011). Much of this fear can be attributed to the press, which often highlights morbidity and even death that occurs with certain methods of birth control. These fears may even lead to women deciding to use no method of contraception or less effective methods (Shulman, 2011). At the same time, many women are unaware of the medical and non-medical benefits of contraceptive use such as decreased risk for ovarian and uterine cancers, ovarian cysts, acne, and dysmenorrhea (Bryant, 2008; Maguire & Westhoff, 2011; National Cancer Institute, 2012).

Cervical cancer death rates have declined since the 1950s, mainly due to the widespread use of Papanicolaou (Pap) testing, which tests for cervical cancer and human papillomavirus (HPV) (DeMaria, Hollub, & Herbenick, 2012). However, HPV remains the most common STI, and the highest rates of HPV are among young women 20-24 years of age (Gerend & Magloire, 2008; Head, Crosby, & Moore, 2009; Leddy, Anderson, Gall, & Schulkin, 2009). There are about 79 million Americans currently infected with HPV and each year 14 million people become newly infected (Centers for Disease Control and Prevention [CDC], 2014c). Nevertheless, younger women continue to underutilize gynecological exam procedures, especially among 18-20 year olds (DeMaria et al., 2012).

**PURPOSE OF THE STUDY**

The purpose of this study is to determine if participation in a peer health education gynecological (GYN) workshop with a focus on women’s health exams and birth control increases college students’ intentions to use birth control, intentions to get a women’s health exams, and increases knowledge of birth control methods and gynecological testing recommendations. A women’s health exam is an umbrella term that includes a breast exam, pelvic exam, a Pap smear (if necessary), and sexually transmitted infection (STI) testing. The GYN workshop is part of the peer health program at San Diego State University (SDSU).
The data assessed participants’ self-efficacy (confidence) in: ability to schedule a women’s health exam, knowing the right time to schedule a women’s health exam, and choosing the right method of birth control. Additionally, the survey collected information on knowledge changes and whether or not participants were in the action stage at the end of the workshop by assessing how soon they planned to see a physician for either a birth control prescription or a women’s health exam.

**THEORETICAL BASE AND ORGANIZATION**

The Transtheoretical Model (TTM) was used to guide the research in this study. The TTM is a stage-based theory. The five stages of the TTM are:

1. Precontemplation: no intention to change behavior in the next 6 months
2. Contemplation: behavior change intended within the next 1-6 months
3. Preparation: change is intended within the next month
4. Action: behavior has been modified for less than 6 months
5. Maintenance: behavior change has lasted for longer than 6 months

The TTM also uses decision balance and self-efficacy. Decision balance involves participants weighing the pros and the cons of changing behavior. Increases in perceived pros and decreases in perceived cons to making a behavior change show that a person is more likely to change (Bridle et al., 2005; Prochaska, 2013). Recent research using the model has shown that decision balance is a good prediction of stage of change (Parsons, Halkitis, Bimbi, & Borkowski, 2000). Decision balance has been used as a prediction of stage of change. For example, the decision balance scale is often used to assess the adoption of condom use. Studies have shown that the pros of condom use outweigh the cons of condom use during the action and maintenance stages of change. However, in the precontemplation stage, the cons for condom use outweigh the pros (Parsons et al. 2000). Self-efficacy is the confidence people have in their ability to carry out the behavior. Self-efficacy has been believed to be a powerful predictor of behavior change because those who are more confident are more likely to engage in the predicted behavior compared to those who are less confident (Wight, 2007).

In the proposed study, the TTM is used to stage participants who enroll in the GYN workshops. Participants are in the preparation phase getting ready to make the behavior
change of starting a birth control prescription and/or getting a women’s health exam for the first time. These participants had expressed interest in seeing a physician about starting a birth control prescription, getting their first women’s health exam, or both before being referred to the workshops. Participants were asked questions about intentions to make appointments to visit their doctor for birth control or a women’s health exam. The GYN workshops developed were prepared for participants who are considering seeing a physician. The workshops provide participants with direct information relevant to birth control options and what to expect during the health exam. This information is best for participants who are going to make an appointment to visit their physician relatively soon so they do not forget the information they received during the workshop. Additionally, after the workshops, participants have the option to make an appointment with a Health Educator if they have more questions that need to be addressed by a professional, instead of by a peer educator. The workshops are available to all students; however, the majority of students attending the workshops have been referred by student health services. The students referred first have called to make an appointment to see a physician for birth control or women’s health exam for the first time. These students must attend a GYN workshop first before seeing a physician at the student health center.
CHAPTER 2

LITERATURE REVIEW

SEXUAL HEALTH RISKS AMONG COLLEGE STUDENTS

College students have unique health needs compared to the general population. College is a time for many late adolescents and emerging adults, ages 18-24, to discover their sexual identity while looking for a sense of independence through sexual exploration (Oswalt & Wyatt, 2013; Turchik, Garske, Probst, & Irvin, 2010). One study by Oswalt and Wyatt (2013) examined sexual orientation and sexual health outcomes by assessing sexual behavior, safer sex behaviors, prevention and screening behaviors, and diagnosis of sexual health conditions. In their study, Oswalt and Wyatt included a population of 25,553 undergraduate and graduate students under the age of 30 enrolled in 57 two- and four-year universities in the United States. Results from this study suggested that college students are at risk for unintended pregnancies, sexually transmitted infections (STIs), and potential negative health outcomes from lack of condom use, lack of birth control, or multiple sex partners (Oswalt & Wyatt, 2013). Additionally, a similar study by Bontempi, Mugno, Blumer, Danver, and Vancour (2009) found that condom use was low and rates of sexual behavior were high compared to adults of other age groups. In this study, a survey was distributed to 1,500 undergraduate students at four universities in the Northeast with 90% of participants between the ages of 18-25 years of age. Questions about sexual health included condom use frequency, whether they are sexually active, and history of STIs (Bontempi et al., 2009).

College-age women also have higher rates of STIs compared to women of other age ranges (CDC, 2013; Pompeo, Kooyman, & Pierce, 2014). Compared to the general population, adolescents aged 15-24 years of age have four times the amount of chlamydia and gonorrhea rates (CDC, 2013; Oswalt & Wyatt, 2013).

HPV is also the most common STI among university students, with prevalence reaching 50% among students at the university level (Medeiros & Ramada, 2010).
Concurrently, there remains a generally low awareness and poor knowledge about HPV (Caskey, Lindau, & Alexander, 2009). Studies have found that there is confusion about the difference between genital warts and genital herpes, a lack of understanding that HPV can be asymptomatic, and a lack of understanding that there is a link between HPV and cervical cancer (Gerend & Magloire, 2008). College women also underutilize gynecological screenings. Many women who attend college are unaware of the gynecological screening guidelines, including when they should have their first exam and how often they should see a physician for a women’s health exam (DeMaria et al., 2012). Additionally, many women are unaware of the purpose of Pap testing, which may relate to the low utilization of gynecological screenings (Gerend & Magloire, 2008). The recommended guidelines for women ages 21 through 29 is to have the Pap test every 3 years (Office on Women’s Health, 2015). According to the American Cancer Society, women in their 20s and 30s should have a clinical breast examination (CBE) by a health professional preferably every 3 years (American Cancer Society, 2014). The CDC (2014a) recommend annual chlamydia and gonorrhea screenings for women younger than 25 years regardless of their risk factors and for older women with risk factors including new or multiple sex partners or a sex partner who has an STI.

**Health Behavior and Sexual Health Workshops**

Sexual health workshops are important for adolescents and emerging adults because most Americans initiate sexual intercourse during this time (Santelli et al., 2006). Data indicate that the median age of first intercourse for women is 17.4 years and 17.7 years for men. At the same time, college students tend to engage in risky sexual behaviors, including multiple partners and a high frequency of sexual activity, contributing to the spread of STIs (Story & Gorski, 2014). Each year, there are 20 million new STIs diagnosed, and almost half of them are among young people 15-24 years of age (CDC, 2014b). According to the CDC (2014a), sexually active young people are at a high risk for acquiring STIs, especially chlamydia, due to behavioral, biological, and cultural reasons. Additionally, young women under the age of 25 have more cells from the endocervix present on the ectocervix when compared to women of other age groups; this is known as cervical ectopy (CDC, 2013). Cervical ectopy puts these young women at an increased susceptibility to chlamydia.
infections, HPV, and other STIs (CDC, 2013; Hwang, Lieberman, Ma, Farhat, & Moscicki, 2012).

Sexual education is important for college students as many do not have adequate knowledge of STIs, birth control options, and when to begin women’s health exams including the Pap test. One major issue with college students is the incorrect belief that hormonal contraceptives are effective in preventing STIs, including HIV (Siegel, Klein, & Roghmann, 1999). To dispel this misinformation, many college campuses use peer health education because students naturally tend to rely on peers for information, including sexual and reproductive health information. Students also perceive their peers as more accessible than college faculty and staff (Boyle, Mattern, Lassiter, & Ritzler, 2011). Peer education is a way to deliver health education in an economic way that accounts for the limited budgets of college health centers because peer educators are usually unpaid volunteers (Boyle et al., 2011). The peer education model has some benefits over sexual and reproductive health promotion methods. The benefits of peer education include using peer leaders in diverse populations and ages, the sharing of backgrounds, interests, and use of language between peers, and the promotion of positive life skills for peer leaders, such as leadership and communication skills. Additionally, the peer educators have a perceived credibility by students (Tolli, 2012).

Jennings, Howard, and Perotte (2014) used a quasi-experimental design with matched comparison groups to determine if a peer led intervention of teens trained in peer health education would be more successful than one with teens who were given no such training. The results of this study demonstrated that adolescents are more concerned about sex and sexual health than any other health issue in their lives. During adolescence, sexual health development occurs, including the development of sexual identity, self-esteem, and sexual responsibility. Further research supports that adolescents and emerging adults need education for obtaining knowledge, skills, and behaviors that promote sexual health (Haglund & Fehring, 2010). Results from Haglund and Fehring (2010) suggest that the school setting is an ideal place to teach healthy sexual behavior because schools are designed to teach information and skills. Lastly, additional evidence supports that adolescents may be more likely to change their behaviors and attitudes if the messenger of health information faces
similar concerns and pressures, such as a peer educator compared to when an older authoritative figure relays the same messages (Jennings et al., 2014).

**INTERVENTIONS TARGETING COLLEGE WOMEN’S UTILIZATION OF HEALTH EXAMS AND BIRTH CONTROL**

Women who are 18 years of age or older and sexually active are advised to have an annual gynecological examination as part of preventive care (CDC, 2014d; Lindley et al., 2009; Office on Women’s Health, 2013). Approximately 76% of college females are sexually active and should be going to health professionals for annual gynecological examinations. Further, the majority of women in college are over the age of 18. However, of these sexually active students over a quarter do not receive annual exams, leaving them vulnerable to long-term consequences such as missed diagnosis of STIs or cervical dysplasia (Lindley et al., 2009). Furthermore, only 1 in 10 young women 18-24 years of age correctly understands the purpose of the Pap smear (Head et al., 2009). University students often do not understand the connection between HPV and genital warts, that HPV can be asymptomatic, and how HPV is spread (Gerend & Magloire, 2008). A cross-sectional study conducted by Head et al. (2009) investigating knowledge of Pap smears in young women at a university health service clinic found that knowledge of the purpose of Pap smears and gynecologic procedures is poor. The study included 145 young women between the ages of 18-24 years who were sexually active within the last three months at the University of Kentucky. Similarly, a cross-sectional study by Caskey et al. (2009) included females aged 13-26 years from a nationally representative panel measuring knowledge about HPV and the HPV vaccine, barriers to vaccine adoption, and prevalence and correlates of early vaccine receipt. Caskey et al. (2009) found that many adolescents and young women lack fundamental knowledge about HPV and the HPV vaccine. For example, only 51% of respondents who had not received the HPV vaccine knew that the HPV vaccine protects against cervical cancer (Caskey et al., 2009).

Studies suggest that having a positive attitude toward contraception enhances contraceptive use (Bryant, 2008). More specifically, women who have a more positive attitude about using contraception are more likely to use contraceptives more consistently compared to those with a negative attitude toward contraception. Those with a negative attitude toward contraceptives also have higher levels of unintended pregnancies (Bryant,
Additionally, women who had discussed contraception with a healthcare worker were 6.63 times more likely to be currently using contraception compared to those who had never had a discussion about contraception with a healthcare worker (Huber & Ersek, 2009). This relates to the pros and cons scale of the Transtheoretical model because having a more positive view of contraception is similar to having more pros toward contraceptive use. Further, according to Delavande (2008), women’s control over their fertility may also affect their education and marriage decisions, their choices to participate in the labor force, and their socioeconomic independence. However, not all sexually active women use contraception (Huber & Ersek, 2009).

Additional research has demonstrated that the method a woman chooses to use for contraception influences how successful she will be to prevent pregnancy (Frost & Darroch, 2008). There are many factors that influence the type of contraception women choose including childbearing goals, sexual relationship characteristics and partner influences, social and economic characteristics, community, family, and peer relationships, service access, and method-specific experiences and attitudes (Frost & Darroch, 2008). Saleeby and Brindis (2011) also address the issue of contraception choice. Although there are contraceptive technologies with failure rates of less than 1%, there is still a high proportion of unintended pregnancies, with latest estimates at 49% of pregnancies being unintended. This may be due to lack of clinician training for new, highly effective contraceptives, including implants and intrauterine devices. Reproductive life planning and family planning are important for women’s health. They have the promise of decreasing the unplanned pregnancy rate, optimizing women’s health, managing healthy pregnancies, and improving birth outcomes (Saleeby & Brindis, 2011). Offering a women’s reproductive health workshop is one way to improve women’s health.

**Behavior Change Theories, the Transtheoretical Model, and Sexual Health**

Behavior change theories attempt to shift behavior by targeting individual cognitions, such as mental processes, beliefs, attitudes, and intentions. These theories go beyond intellectual capacity of taking in information by involving environmental and social factors (Wight, 2007). The idea behind behavior change theories is that what we do affects our
health and longevity. According to Michie and Abraham (2004), persuading people to avoid unprotected sexual intercourse and practice proper birth control techniques has the potential to improve the health of the student population. The TTM measures readiness to change and appears to explain why some people respond to interventions while others do not (Michie & Abraham, 2004).

The stages in the TTM are in temporal order and describe shifts in attitudes, intentions, and behaviors (Lauby et al., 1998). There are five stages ranging from precontemplation (not even thinking about adopting or changing the behavior) all the way to maintenance (practicing the behavior consistently for at least 6 months) (Lauby et al., 1998; Prochaska, 2013). As people progress through the stages, they may move linearly or nonlinearly, and also may cycle back and forth between the stages before making it to and remaining at maintenance. While moving through the stages, attitudes and beliefs change in predictable ways through changes in self-efficacy and decision balance. These shifts in behavior are also related to the pros and cons scales. The model suggests that people in the precontemplation stage, for example, will have a higher number of cons than pros for a preventable behavior and low self-efficacy. However, those in the maintenance stage will have a higher number of pros than cons for the same behavior and a high level of self-efficacy (Lauby et al., 1998). The TTM also suggests that if changes in self-efficacy and decision balance precede behavior change, the constructs act as possible mediators that interventions could be used to promote movement through the stages toward maintenance.

Wight (2007) found that being able to develop detailed and realistic plans of behavior change allows individuals to specify how, where, and when an action is to be carried out. This has been shown to transition intentions into action, or from contemplation or preparation into action and maintenance. Participants can learn “scripts” for how to behave in specific circumstances through role-playing or observation of others’ behavior. These “scripts” are patterns of behavior which will continue to be followed in the same way as long as others involved respond as expected.

According to Redding et al. (1999), adolescence and emerging adulthood is a time for behavioral choices as people transition from childhood to independence. This is a great time period of interventions aimed at choosing healthy alternatives from potentially harmful choices. Hence, an action-oriented model such as the TTM is well suited to adolescents’
needs (Redding et al., 1999). With late adolescents and emerging adults, including college students 18-24 years of age, experimenting with risk-taking, including unsafe sexual behavior, has been found to be both statistically normative and psychologically adaptive by developmental researchers (Parsons et al., 2000). The decision balance approach, using the TTM’s pros and cons scale, emphasizes both positive and negative consequences of behavior change (Parsons et al., 2000). When staging individuals about sexual health, it is important to consider a person’s actual behaviors and their future behavior intentions. Many prevention programs for sexual risk-taking behaviors have considered that belief and knowledge concerning the dangers involved in this behavior will deter risk-taking. However, many adolescents will engage in unprotected sex despite knowing the health consequences associated with this action (Parsons et al., 2000). Hacker, Brown, Cabral, and Dodds (2005) used the TTM for an adolescent HIV/STD and pregnancy prevention program. Data were collected from client visits at seven school based health centers (SBHCs) in Massachusetts. Their results showed that using the TTM to inform an intervention that prevents teen pregnancy and HIV/STDs is a promising approach for family planning counseling. This relates to Grossman et al. (2008)’s study, which examined condom use behaviors in adolescents guided by the TTM to assess pros and cons of condom use, peer norms, condom communication, and perceived invulnerability to HIV. Their findings suggest that the pros and cons scale can be used to predict progression to and maintenance of consistent condom use.

Using the TTM to examine sexual behavior presents different challenges that need to be addressed. The TTM has focused on individual activities, such as smoking cessation and weight loss, which are unhealthy behaviors that were given up. However, when it comes to delivering sexual health prevention messages, these messages are private and harder to measure if behavior is changing. Additionally, sexual activity has been seen as an emotionally driven behavior that may be difficult to control, and therefore may be difficult to change (Prochaska, 2013). Further, sexual activity involves two or more people, so changing the attitudes of one member may not be enough to produce movement along the stages. Because other parties are involved, there are challenges of addressing proper technique and maintenance of the target behavior (Prochaska, 2013).
The TTM has also been used for condom use. A study by Kwon et al. (2008) used the TTM to assess condom use in unmarried college students in Korea. The study examined condom use with differences in decisional balance and self-efficacy in the stages. Their findings suggested that the pros score for condom use was highest for participants in the maintenance stage and lowest for those in the contemplation stage whereas the cons score was highest in the preparation stage and lowest in the maintenance stage. Tung (2010) also used TTM stages to explore perceived benefits and barriers of getting Pap smears for Vietnamese American women. Tung’s findings showed that participants in the precontemplation stage saw fewer benefits from Pap smears detecting abnormalities and increasing treatment options. The results from this study provide evidence that the TTM can be used for condom use and sexual health.

**BARRIERS TO BIRTH CONTROL AND ANNUAL EXAMS**

To use contraception and see a doctor for an annual exam, women must have access to care. Many American women have barriers to accessing hormonal contraception (Landau, Tapias, & McGhee, 2006). One study found that nearly half of women who do not receive gynecological care in the past year attributed it to affordability, lack of insurance, lack of provider, and inability to get time off of work or find time for the appointment. Another major deterrent to seeking gynecological care is appointment delay, even for women who have access to care. According to Landau et al. (2006), a national study found that a new patient waits for more than 2 weeks for an obstetrics-gynecology appointment. When it is inconvenient to access hormonal contraception, women may be increasing their risk of having an unintended pregnancy due to gaps in obtaining hormonal contraceptives, use of less effective non-hormonal methods, or not using any contraception. Landau et al. (2006) found that 28% of women have had problems obtaining a prescription for contraception, filling a prescription, or getting to their supplies when they needed them. Women who had fewer resources to manage an unintended pregnancy were more likely to have experienced problems with obtaining prescriptions for contraception.

Many late adolescents are also transitioning from high school to college, and their visits for preventive care services at a pediatrician decrease. As they transition away from pediatrics, many people in this age range often do not transition to an adult provider.
smoothly. One study by Tsai, Zhou, Wortley, Shefer, and Stokley (2014) demonstrated that preventive visit rates were lower among late adolescents (18-21 years of age). This study examined preventive visits to doctors in over 4 million adolescents between 2003 and 2010. The transition from pediatrics to adult medical care can be an incomplete process. Many patients drift away from pediatric care instead of having a hand off to an adult care medical provider (Cooley & Sagerman, 2011). Many pediatricians, youth, and families have found a limited availability of adult providers with whom to arrange a smooth transition of care (Cooley & Sagerman, 2011).

To address the challenges associated with accessing health care in this population, college students may utilize services at college health centers. College health centers offer resources for students including peer education programs, free condoms, health information, support groups, and outpatient clinic services found at a normal doctor’s office (Eisenberg, Garcia, Frerich, Lechner, & Lust, 2012). Eisenberg et al. (2012) conducted go-along interviews with college students to determine if college students were aware of the sexual health resources available on their campuses. Five Minnesota colleges with 78 participants were interviewed between the ages of 18-24. The majority of students identified condom distribution and the importance of the campus clinic or health services as an integral part of student health. College health centers play an important role for accessing health needs of the students, including the need for sexual and reproductive health.

**Peer Health Education**

Peer Health Education is an affordable and growing way for public health officials to reach a broad range of people. Peer education is especially important in the university setting (White, Park, Israel, & Cordero, 2009). Many universities use peer health educators (PHEs) to disseminate information to the student body. Peer educators may influence social behavior through their role as credible role models. Moreover, peer-led education may be an approach by which young people, through partnerships, can define their own health needs by having active roles with education and being able to give input into the education that is delivered (Kim & Free, 2008).

Peer education has become a popular and effective strategy for health promotion and prevention in recent years (Boyle et al., 2011). PHEs can be used in diverse populations and
age groups. According to Tolli (2012), the assumption with using PHEs is that young people’s peer groups have strong influences on the way that youth behave. Young people are influenced by each other and learn from one another with both risky and safe behaviors. Young people also share a common use of language, background, and interests. Peer educators also learn positive life skills including leadership and communication (Tolli, 2012). Peer education can be delivered formally or informally (Story, & Gorski 2014). Formal education includes the traditional educational structure where students are used as the instructors. Informal peer education maintains normal social dynamics to facilitate education through peer support. Peer educators are often socially well adjusted, highly motivated, enthusiastic, and have high status among their peers. Peer educators have also reported increases in self-esteem and self-efficacy for themselves in several studies (Story & Gorski, 2014; Tolli, 2012).

Mellanby, Rees, and Tripp (2000) reviewed published studies comparing peer-led to adult-led delivery of the same school-based health education programs that had experimental conditions. Their findings support the use for peer-educators relating to the social influences theoretical model, which is based on theories of social learning, social inoculation, and social norms. These theories are based on the observation of friend interaction to help explain why a friend seeks advice from a friend and how friends influence expectations, attitudes, and behaviors of the group they belong to. The underlying message of these theories are that peer influence may be stronger than the influence of adults, including teachers or experts. Peer-led education allows peers to be used in a wide variety of health-related settings, and has been widely used for multiple educational objectives (Mellanby et al., 2000).

**Benefits of Peer Education**

The benefits of peer education cited in the literature include accessibility and positive effects for the peers receiving the education (White et al., 2009). Because PHEs are also students, they have an increased accessibility because PHEs can be in situations inaccessible to university administrators and health professionals, such as informal networking, informal social relationships, and personal relationships (White et al., 2009). These informal social or personal relationships allow peer health educators to closely identify and understand experiences of other students better than a health professional could. Several studies have
found that PHEs report positive personal outcomes such as increased health knowledge, professional skills, self-esteem, and feeling empowered when they reach out to other students (American College Health Association, 2007; Gould & Lomax, 1993; Sawyer, Pinciaro, & Bedwell, 1997; Sloane & Zimmer, 1993; White, 1994; White et al., 2009). Additionally, PHEs are described as credible role models, and PHEs are perceived to have expertise and trustworthiness. Another often-cited benefit of peer health education is cost effectiveness. PHEs reduce cost because student volunteers can fulfill the role of paid staff (White et al., 2009). In a study by Richie and Getty (1994), an anonymous mail survey was sent to entering first-year students at the start of the school year and again at the end of the school year. Participants were placed in the experimental group of having attended the AIDS peer education program (APEP) and were compared to students who did not attend APEP. There were 11 students in the experimental group and 13 students in the non-experimental group. The student educators were trained to make presentations on the causes, prevention, and treatment of human immunodeficiency (HIV) disease in classrooms. The student educators were accompanied by a registered nurse. Students who were randomly assigned to attend the peer-led APEP program reported higher rates of HIV testing, use of condoms, and discussion of sexual health issues with their partners than did students who did not attend such programs.

Peer educators are frequently in social contact with their peers, which gives them many opportunities to positively reinforce learning. Additionally, people who volunteer to become peer educators often do so because they already have a belief in their social skills to influence others (Wight, 2007). Peer educators also often believe in their ability to carry out the desired behaviors that they are educating their peers on (Wight, 2007). An intervention delivered by peers also may be more beneficial to the target group’s self-esteem than having outside professionals encouraging them to change behavior. The needs of the target community need to be incorporated into the intervention for the program message to be tailored and suit them. Using peer educators is important in making sure that messages are reaching the target population, especially with information related to sexual health (Wight, 2007). Students may prefer to discuss sensitive issues, including sexual health, with peers and may be more influenced by them. College students are also more susceptible to both positive and negative peer pressure, making it important for peer leaders to provide a positive
influence to their peers. Because of the positive influences the peer leaders have on their peer group, peer education is considered to be empowering, beneficial, and acceptable for students and offers the benefit of cost savings (Story & Gorski, 2014).
CHAPTER 3

METHODS

The design of this study was a pre- and post-evaluation given to participants to examine changes in knowledge of birth control methods, the women’s health exam procedures and self-efficacy for choosing the right method of birth control, self-efficacy for knowing when to schedule a women’s health exam, and self-efficacy in ability to schedule a women’s health exam among San Diego State University (SDSU) female students attending a peer-led gynecological (GYN) workshop, presented in the Appendix. The Transtheoretical Model (TTM) was used to assess the stage participants were in at the end of the workshop. The topics covered in this workshop included hormonal and non-hormonal methods of birth control and women’s health exams. Participants were referred to the workshops by physicians at Student Health Services (SHS) before they could be seen by a physician if it was their first time using birth control or their first time having a women’s health exam. Data were collected throughout the Fall 2014 semester from August-December 2014. Workshops lasted approximately sixty minutes and were conducted by a trained PHE. There were approximately 1-5 participants per workshop, and workshops were offered seven times a week with a different PHE at each of the seven workshops.

The peer health education program at SDSU is conducted by the Health Promotion Department. Health Promotion partners with Student Health Services (SHS) to coordinate the gynecological (GYN) workshops for the female members of the student body. When students call the phone number at SHS to make an appointment to request birth control prescription or a women’s health exam for the first time at SHS, students are instructed to make an appointment with Health Promotion first and attend a GYN workshop. These comprehensive workshops cover hormonal and non-hormonal birth control options, as well as what to expect when students receive a women’s health exam for the first time. These workshops last for one hour and are led by a trained peer educator.
Peer educators: Students can apply to be a part of the peer education program and become PHEs. To be considered for a GYN Session Leader Position, a SDSU student must first be a trained, active member of SDSU’s Health Promotion Peer Health Education Program. To become an active member of this program, students must have completed a 3-unit training course with a grade of 80% or better and create a final presentation that demonstrates skills adequate for training their peers, as deemed by the Health Educator and Adjunct Faculty member instructing the course. Additionally, all peer educators must have completed 60 academic units toward their degree before they can apply for the position.

The Peer Health Education Training Objectives are:

- To provide students with a solid foundation of knowledge of select health and wellness topics, and a general foundation in Program Development Skills Training based upon the Transtheoretical Model of Behavior Change (Bridle et al., 2005). The students will assess the stages of change and be able to match educational strategies to various stages.

- To provide students with training necessary to attain an acceptable level of skills to necessary effectively design educational programs; facilitate discussions and activities; and assess program outcomes.

- To provide students with training necessary to attain an acceptable level of skills necessary for effective public presentations, including information giving, responding to misinformation, and responding to questions. They will learn ways to move people forward on a path to healthy behavior change.

Once students have completed the Peer Health Education training course, they must interview for a position as a Peer Health Educator with a Health Educator in charge of the peer education program. Students who are deemed qualified for the peer health position by the Health Educator become an Active Member in the peer health program and are officially Peer Health Educators (PHEs). PHEs are selected to be GYN session leaders based on their interest and abilities. If they accept this volunteer position, they are then asked to complete the following training steps prior to being cleared to lead a GYN Session:

1. Attend a GYN Session.
2. Study the script for the session and pass an exam that covers all of the material about women’s health and contraception with an 80% or better.
3. Meet with the Health Educator to discuss any of the material they did not answer correctly to ensure the PHE’s know all of the material presented.
4. Receive 1 hour of training on the procedures and material necessary for this study and data collection.
5. Complete SDSU’s IRB Human Subject Tutorial. Demonstrate a full GYN session, following the script and using all models and visuals and data collection procedures to the Health Educator and GYN Coordinator.

**Participants Recruitment and Workshop Design**

*Workshop structure:* Workshops were held seven times a week, once on Mondays, Wednesdays, and Fridays, and twice on Tuesdays and Thursdays. Workshops were held twice a day, in the morning and afternoon, on Tuesdays and Thursdays because these are the busiest days on campus when the largest number of students are present on campus. Workshops were held on a walk-in basis with no appointment necessary. Students were instructed to arrive 15 minutes early to fill out the necessary paperwork. When students walked into Health Promotion they were greeted by the receptionist who gave them the paperwork for the workshops and for their health record. Prior to implementing data collection on the workshops, the pre- and post-evaluations were administered. Before the workshops began, students were informed that their participation in the study was completely voluntary and would not affect their relationship with the PHE or being able to attend the GYN workshop. Participants were also informed that their participation would remain anonymous and were instructed to create a six-digit identification number; the first two numbers were the month they were born and the last four digits of their cell phone number.

*Participant recruitment:* The recruitment strategies were as follows: the workshops were advertised in Health Promotion’s window and at the reception desk, flyers were hung up around campus half way through the semester at various locations including the library and established posting boards (exterior of Adams Humanities, Education and Business Administration Building, Nasatir Hall, Olmeca Hall/Residence Hall Plaza, SDSU Bookstore, and Storm Hall), and an e-mail was sent out to all sorority house presidents for them to inform their members of the workshops. Workshops were free to attend and there were no incentives for participating.

*Location of workshops:* Health Promotion was chosen as the location for the workshops because the PHE program is run by the Health Promotion Department. Additionally there is a conference room available for the workshops that allow for privacy and discretion. Only the participants in the workshop and the PHE leading the workshop are
in the conference room and there are no interruptions. This site also has easy access for students to attend the workshops because it is located on campus.

_Peer Health Educator selection:_ SDSU PHEs were recruited to run the workshops. Seven total PHEs were recruited, one for each time slot. PHEs recruited had to be active members, pass a quiz with an 80% or better showing full comprehension of the workshop material, and demonstrate a complete workshop to a health educator before being able to lead the workshops.

**POPULATION AND SAMPLE**

Eligibility: Participants included female undergraduate students between the ages of 18-25 years who attended San Diego State University in the Fall 2014 semester. Additionally, participants had to be willing to complete the pre- and post-evaluations before and following the GYN workshop. Further, to meet inclusion criteria to take the pre- and post-evaluations participants had to attend the full workshop and be fluent in English. In total, 71 participants attended the workshops in the Fall 2014 semester. A total of 56 participants filled out both the pre- and post-evaluations and an additional 6 participants filled out the pre-evaluation but not the post-evaluation.

**MEASURES**

*Demographics:* Measures for demographics included age, year in school, race/ethnicity, current residency on campus or off campus, and reason for attending the workshop. Year in school was measured categorically (1) freshman (2) sophomore (3) junior (4) senior (5) graduate student. Age was measured (1) younger than 18, (2) 18, (3) 19, (4) 20, (5) 21, (6) 22, (7) 23, (8) 24, (9) 25, and (10) 26 or older. Ethnicity was measured categorically (1) American Indian or Alaska Native (2) Asian/Pacific Islander (3) Black or African American, (4) Hispanic or Latino (5), White, (6) more than one ethnicity. Current residency was coded (1) on campus resident and (2) off campus resident. Demographic measures were only included on the pre-evaluation.

*Reasons for attending workshops:* Categorical choices for coming to the workshop were only asked in the pre-evaluation and included (1) birth control only, (2) women’s health exam only, (3) birth control and a women’s health exam, or (4) other.
Knowledge acquisition questions were based on the material from the workshops and were created by the principle investigator. There were 26 total multiple choice knowledge based questions related to a women’s health exam or birth control. Of these 26 questions, 9 assessed knowledge of Women’s Health Exam and 17 assessed knowledge about contraception and were the same on both the pre-evaluation and the post-evaluation. To measure knowledge change following participation of program activities, we summed participants’ number of correct responses and examined how this changed between pre-evaluation to the post-evaluation. The knowledge-based questions were created based on the main topics of the workshop (e.g., women’s health exam, birth control methods, and services offered at the student health center).

Topics for the questions based on the women’s health exams included: 1) what to bring to a women’s health exam (1 question), 2) the difference between a women’s health exam and Pap smears (3 questions), 3) knowledge about what the Gardasil vaccine protects against (2 questions), and 4) what to expect during the exam and after the exam is over (3 questions). The questions about birth control covered the types of hormones in hormonal birth control methods (9 questions), how to start taking a new hormonal prescription (3 questions), if it is medically safe to miss periods because of birth control (1 question), the pros of birth control (1 question), how to properly use birth control pills (2 questions), and how to protect yourself from STDs (1 question); see the Appendix for a full list of the questions used. Questions about the student health center included the cost of emergency contraceptives at the campus pharmacy (1 question) and where to go for Intrauterine Devices (IUDs) or the implant called Nexplanon because these types of birth control are not offered at the student health center (1 question). These questions were coded as (1) for a correct answer to the question and (0) for an incorrect answer and were coded dichotomously. Two sum scores were created. One was created for the 9 questions on the women’s health exam and the other was created for the 17 questions on contraception.

Self-efficacy for birth control and scheduling women’s health exams was measured through asking questions about confidence in choosing the right method of birth control, scheduling a women’s health exam, and knowing when the right time is to schedule a women’s health exam. The self-efficacy questions were created for the workshops. A total of
3 questions were used to measure self-efficacy. Confidence level was measured on a 5-point Likert scale, ranging from:

1. Not at all confident
2. Somewhat confident
3. Neither confident or unconfident
4. Confident
5. Absolutely confident

Cronbach’s alpha was used to test for internal consistency; >.70 indicates reliability or correlation of the survey instrument. The Cronbach’s alpha for the pre-evaluation self-efficacy was .797 and for post-evaluation self-efficacy was .773. A sum score was created by adding together the values from each of the three questions and dividing this total by the number of self-efficacy questions (3). Self-efficacy for scheduling an appointment for birth control and a women’s health exam is treated as a continuous variable.

*Pros and cons scale of birth control and women’s health exams.* There were four dichotomous pro and four dichotomous con statements given with the choice of “agree”=1 or “disagree”=0. Of the four pro questions, two were on contraception and two were on the women’s health exam. For the four cons questions, two were also on contraception and two were on the women’s health exam. These pros and cons statements were the same on both the pre-evaluation and the post-evaluation. The pros and cons covered statements about both birth control and the women’s health exam and are as follows:

- **Pros:**
  - Having a women’s health exam can find a problem even before it develops into cancer (Rakwoski et al., 1997).
  - The Pap test is done quickly and is not a bother to have one (Rakowski et al., 1997).
  - Using contraceptives lets you have sex without worrying about getting pregnant (Galavotti et al., 1995).
  - Using contraceptives gives you a sense of control (Lauby et al., 1998).

- **Cons:**
  - A women’s health exam only finds problems when they are too far along to treat (Rakwoski et al., 1997).
  - A women’s health exam is not important to a woman of my age (Rakwoski et al., 1997).
- Contraceptives cost too much money (Galavotti et al., 1995).
- Contraceptives are too much trouble (Galavotti et al., 1995).

*Intentions* to make an appointment with a physician for a birth control prescription and a women’s health exam were measured only in the post-evaluation. These were four dichotomous “yes” (1) and “no” (0) questions that asked in the next 6 months if participants planned to see a doctor for a women’s health exam, if in the next 3 months participants planned to see a doctor for a woman’s health exam, and if in the next 6 months participants planned to see a doctor to get a birth control prescription, or if within the next 3 months participants planned to see a doctor to get a birth control prescription. The principle investigator created these questions for the workshops.

**Statistical Analysis Procedures**

The data collected for analysis from the Gynecological Workshops offered by San Diego State University’s Health Promotion Department occurred in the fall semester of 2014. All statistical analyses were conducted using SPSS version 22 software. Normality was tested by using the Shapiro-Wilk test to look at the skewness of the data. Descriptive statistic frequencies were taken to examine demographic factors of the sample population and distribution of the variables. Descriptive statistics were used to examine progression through the stages by assessing intentions to see a physician after the workshop for birth control and a women’s health exam. Further, descriptive statistics were used to assess changes in the pros and cons of birth control and women’s health exams. Paired-sample t-tests were used to examine changes in continuous variables including participants’ knowledge of birth control choices and the women’s health exam and self-efficacy for scheduling an appointment for birth control and a women’s health exam. Two sum scores were created for the knowledge questions; one for the categories of women’s health exam questions and another for birth control questions. Sum scores were also calculated for self-efficacy from the pre- and post-evaluations. A paired sample t-test was run to examine changes in self-efficacy before and following participation in the workshop. Additionally, McNemar’s test was used to examine the nonparametric dichotomous variables from the knowledge-based questions individually in addition to the sum score. This test was used to examine changes in knowledge about the
women’s health exam and birth control before and after participating in the workshops. Results were considered significant at p <0.05.
CHAPTER 4

RESULTS

DESCRIPTIVE STATISTICS

In total, 105 workshops were offered with PHEs present; however, not all were attended. A total of 71 participants came to the workshops throughout the semester and 56 participants (78.9%) completed the pre- and post-evaluations (see Table 1). A total of 6 participants filled out the pre-evaluation but did not fill out the post-evaluation. All participants in the workshop were female. The sample consisted 41.1% freshmen, 14.3% sophomores, 19.6% juniors, and 25% seniors. The majority of the students attending the workshops (84%) were between 18-20 years of age, 21-23 year olds made up the remaining 16% of the sample. The ethnicity/race of the population was 25% Asian/Pacific Islander, 1.8% Black or African American, 23.2% Hispanic or Latino, 39.3% white, and 6% identified as multiple races/ethnicities. There were 47.3% of students who were living on campus and 52.7% living off campus. The majority of the students came to the workshop for birth control only (55.4%), 32.1% came for birth control and a women’s health exam, 8.9% of the students came for information on a women’s health exam only, and 3.6% came for other reasons.

Table 1. Demographics of the Population and Participant Variables

<table>
<thead>
<tr>
<th>Age</th>
<th>Intervention (n=56)</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 years</td>
<td>22</td>
<td>39.3</td>
</tr>
<tr>
<td>19 years</td>
<td>9</td>
<td>16.1</td>
</tr>
<tr>
<td>20 years</td>
<td>16</td>
<td>28.6</td>
</tr>
<tr>
<td>21 years</td>
<td>2</td>
<td>3.6</td>
</tr>
<tr>
<td>22 years</td>
<td>6</td>
<td>10.7</td>
</tr>
<tr>
<td>23 years</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>Year in School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>23</td>
<td>41.1</td>
</tr>
<tr>
<td>Sophomore</td>
<td>8</td>
<td>14.3</td>
</tr>
<tr>
<td>Junior</td>
<td>11</td>
<td>19.6</td>
</tr>
<tr>
<td>Senior</td>
<td>14</td>
<td>25.0</td>
</tr>
</tbody>
</table>
### Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Intervention (n=56)</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian/Pacific Islander</td>
<td>14</td>
<td>25.0</td>
</tr>
<tr>
<td>Black or African American</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>13</td>
<td>23.2</td>
</tr>
<tr>
<td>White</td>
<td>22</td>
<td>39.3</td>
</tr>
<tr>
<td>Multiple</td>
<td>6</td>
<td>10.7</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

### Residency

<table>
<thead>
<tr>
<th>Residency</th>
<th>Intervention (n=56)</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>On campus</td>
<td>26</td>
<td>47.3</td>
</tr>
<tr>
<td>Off campus</td>
<td>29</td>
<td>52.7</td>
</tr>
</tbody>
</table>

### Reason for Attending Workshop

<table>
<thead>
<tr>
<th>Reason for Attending Workshop</th>
<th>Intervention (n=56)</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth control only</td>
<td>31</td>
<td>55.4</td>
</tr>
<tr>
<td>Women’s health exam only</td>
<td>5</td>
<td>8.9</td>
</tr>
<tr>
<td>Birth control and a women’s health exam</td>
<td>18</td>
<td>32.1</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>3.6</td>
</tr>
</tbody>
</table>

## STAGES OF CHANGE

Descriptive statistics and frequencies were examined in the post-evaluation to determine how many participants were ready to see a physician at the end of the workshops, presented in Table 2. These questions were used to evaluate whether participants were in the preparation phase of the TTM. Most participants indicated intentions to visit a doctor in the next 3 months for a birth control prescription, showing staging at the preparation phase for participants interested in birth control. However, not as many participants planned to visit a doctor in the next 3 months for a Women’s Health Exam. Participants who planned to see a physician in the next 6 months were in the contemplation phase.

### Table 2. Descriptive Statistics for Stages of Change

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the next 6 months do you plan to see a doctor to get a Women’s Health Exam? (Contemplation)</td>
<td>50 (89.3)</td>
<td>56</td>
</tr>
<tr>
<td>In the next 3 months, do you plan to see a doctor to get a Women’s Health Exam? (Preparation)</td>
<td>44 (78.6)</td>
<td>56</td>
</tr>
<tr>
<td>In the next 6 months, do you plan to see a doctor to get a birth control prescription? (Contemplation)</td>
<td>50 (90.9)</td>
<td>55</td>
</tr>
<tr>
<td>In the next 3 months, do you plan to see a doctor to get a birth control prescription? (Preparation)</td>
<td>49 (89.1)</td>
<td>55</td>
</tr>
</tbody>
</table>

*Note: Questions were only assessed in the post-evaluation.*
**Birth Control and Women’s Health Exam Knowledge**

Descriptive statistics and percentages were used to determine if knowledge increased after the workshop, specifically examining changes in the post-evaluation when compared to the pre-evaluation. In the pre-evaluation, the mean number of correct answers was 5.19 (SD=1.43) for the women’s health exam questions and 8.75 (SD=1.21) for contraception knowledge. In the post-evaluation, the mean number of correct answers was 7.32 (SD=2.06) for contraception and 13.68 (SD=1.88) for contraception. Two sum scores were created, one for questions related to the women’s health exam and another for questions related to birth control (see Table 4). A paired sample t-test was used to look for increases in knowledge for both sum scores. There were significant increases in both sum scores, demonstrating an increase in knowledge (p<.001) (see Table 5). Additionally, McNemar’s test was run to examine the dichotomous variables for the knowledge questions (see Table 3). Statistical significance was found for increases in knowledge on questions related to the Pap exam, the Gardasil vaccine, hormones in birth control, what to do if you miss a birth control pill(s), and the different types of hormonal birth control including the patch, Nuva Ring, emergency contraception, long-term reversible contraceptives (LARCS), and the shot (see Table 3).

**Table 3. Descriptive Statistics and McNemar’s Test for Women’s Health Exam and Contraception Knowledge Questions**

<table>
<thead>
<tr>
<th>Knowledge Question</th>
<th>Pre Correct</th>
<th>Post Correct</th>
<th>Total</th>
<th>McNemar’s Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What should you bring to your exam?</td>
<td>52 (100)</td>
<td>52 (100)</td>
<td>52</td>
<td>No Change</td>
</tr>
<tr>
<td>2. A women’s health exam is an umbrella term covering what services?</td>
<td>49 (92.5)</td>
<td>50 (94.3)</td>
<td>53</td>
<td>1.000</td>
</tr>
<tr>
<td>3. At what age should women start receiving Pap smears…</td>
<td>24 (44.4)</td>
<td>53 (98.1)</td>
<td>54</td>
<td>.001</td>
</tr>
<tr>
<td>4. Pap smear looks for what virus?</td>
<td>13 (24.5)</td>
<td>37 (69.8)</td>
<td>53</td>
<td>.001</td>
</tr>
<tr>
<td>5. The pelvic exam…What device is used in the internal portion to keep the vaginal canal open?</td>
<td>19 (41.3)</td>
<td>40 (87.0)</td>
<td>46</td>
<td>.001</td>
</tr>
<tr>
<td>Knowledge Question</td>
<td>Pre Correct</td>
<td>Post Correct</td>
<td>Total*</td>
<td>McNemar’s Significance</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>--------------</td>
<td>--------</td>
<td>------------------------</td>
</tr>
<tr>
<td>6. Is it normal to have spotting or cramping... after your pelvic exam?</td>
<td>33 (70.2)</td>
<td>38 (80.8)</td>
<td>47</td>
<td>.227</td>
</tr>
<tr>
<td>7. Hormonal birth control contains which two hormones?</td>
<td>30 (62.5)</td>
<td>42 (87.5)</td>
<td>48</td>
<td>.001</td>
</tr>
<tr>
<td>8. ACHES is an acronym... What does ACHES stand for?</td>
<td>29 (59.2)</td>
<td>45 (80.4)</td>
<td>49</td>
<td>.001</td>
</tr>
<tr>
<td>9. Most Oral Contraceptives have how many weeks of active pills? And how many weeks of placebo...?</td>
<td>43 (86.0)</td>
<td>49 (1.8)</td>
<td>50</td>
<td>.070</td>
</tr>
<tr>
<td>10. How long should you use a backup method after starting birth control pills?</td>
<td>17 (32.7)</td>
<td>29 (51.8)</td>
<td>52</td>
<td>.012</td>
</tr>
<tr>
<td>11. Is it medically safe to use birth control ...limit the number of periods...?</td>
<td>36 (72.0)</td>
<td>49 (98.0)</td>
<td>50</td>
<td>.001</td>
</tr>
<tr>
<td>12a. What should do you about making up 2-3 missed pills?</td>
<td>10 (19.6)</td>
<td>33 (64.7)</td>
<td>51</td>
<td>.001</td>
</tr>
<tr>
<td>12b. What about if you missed 4 pills?</td>
<td>22 (44.9)</td>
<td>46 (93.9)</td>
<td>49</td>
<td>.001</td>
</tr>
<tr>
<td>13. Ortho Eva... health risks of an increased amount of Estrogen?</td>
<td>8 (18.2)</td>
<td>30 (68.2)</td>
<td>44</td>
<td>.001</td>
</tr>
<tr>
<td>14. The Nuva Ring...How many weeks do you leave it in your vagina?</td>
<td>20 (39.2)</td>
<td>38 (74.5)</td>
<td>51</td>
<td>.001</td>
</tr>
<tr>
<td>15. How long is Depo Provera (the shot) effective for?</td>
<td>17 (34.7)</td>
<td>36 (73.5)</td>
<td>49</td>
<td>.001</td>
</tr>
<tr>
<td>16. What is a way to avoid nausea when taking birth control pills?</td>
<td>40 (80.0)</td>
<td>46 (92.0)</td>
<td>50</td>
<td>.180</td>
</tr>
<tr>
<td>17. If you suffer from migraines with an aura which hormone should you avoid...</td>
<td>10 (22.2)</td>
<td>36 (80.0)</td>
<td>45</td>
<td>.001</td>
</tr>
<tr>
<td>18. What are some pros of birth control pills, other than avoiding pregnancy?</td>
<td>42 (84.0)</td>
<td>48 (96)</td>
<td>50</td>
<td>.039</td>
</tr>
<tr>
<td>19. Where on your body should you test spermicide before using it?</td>
<td>26 (57.8)</td>
<td>34 (75.6)</td>
<td>45</td>
<td>.039</td>
</tr>
<tr>
<td>20. What does the Gardasil vaccine protect against?</td>
<td>31 (67.4)</td>
<td>39 (84.8)</td>
<td>46</td>
<td>.065</td>
</tr>
</tbody>
</table>
## Knowledge Question

<table>
<thead>
<tr>
<th>Knowledge Question</th>
<th>Pre Correct</th>
<th>Post Correct</th>
<th>Total*</th>
<th>McNemar’s Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. The Gardasil vaccine ...These four strains are linked the most closely with…</td>
<td>12 (25.0)</td>
<td>25 (52.1)</td>
<td>48</td>
<td>0.001</td>
</tr>
<tr>
<td>22. Chlamydia ...Does it always have signs or symptoms?</td>
<td>13 (28.3)</td>
<td>36 (71.7)</td>
<td>46</td>
<td>1.000</td>
</tr>
<tr>
<td>23. A wet mount is checking for what types of infections?</td>
<td>13 (28.3)</td>
<td>18 (39.1)</td>
<td>46</td>
<td>0.359</td>
</tr>
<tr>
<td>24. What is the only way to protect yourself from STDs?</td>
<td>38 (77.6)</td>
<td>37 (75.5)</td>
<td>49</td>
<td>1.000</td>
</tr>
<tr>
<td>25. …IUD or Nexplanon… Where can you have this procedure?</td>
<td>24 (52.2)</td>
<td>37 (80.4)</td>
<td>46</td>
<td>0.002</td>
</tr>
<tr>
<td>26. Emergency contraception... If you… purchase it at Student Health Services pharmacy...how much will</td>
<td>14 (29.8)</td>
<td>35 (74.5)</td>
<td>47</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Notes: Coded as (1) Correct and (0) Incorrect  
Different totals are due to the number of participants who answered each question

### Table 4. Sum Scores of Women’s Health Exam and Contraception Knowledge Questions

<table>
<thead>
<tr>
<th>Contraception (17 questions total)</th>
<th>Pre- Evaluation (n=41)</th>
<th>Post-Evaluation (n=41)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (% of total)</td>
<td>n (% of total)</td>
</tr>
<tr>
<td>0-5 Correct</td>
<td>1 (1.9)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>6-10 Correct</td>
<td>31 (75.6)</td>
<td>2 (4.9)</td>
</tr>
<tr>
<td>11-17 Correct</td>
<td>9 (22.0)</td>
<td>39 (95.1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Women’s Health Exam (9 questions total)</th>
<th>Pre- Evaluation (n=41)</th>
<th>Post-Evaluation (n=41)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (% of total)</td>
<td>n (% of total)</td>
</tr>
<tr>
<td>0-3 Correct</td>
<td>1 (1.8)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>4-6 Correct</td>
<td>21 (51.2)</td>
<td>3 (7.3)</td>
</tr>
<tr>
<td>7-9 Correct</td>
<td>15 (36.6)</td>
<td>38 (92.7)</td>
</tr>
</tbody>
</table>

### Table 5. Sum Score for Women’s Health Exam and Contraception Knowledge Questions- Paired Sample t-test

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Pre Mean (SD)</th>
<th>Post Mean (SD)</th>
<th>Mean Change (SD)</th>
<th>Sig (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women’s Health Exam Knowledge</td>
<td>5.19 (1.43)</td>
<td>7.33 (1.22)</td>
<td>2.14 (.23)</td>
<td>.001</td>
</tr>
<tr>
<td>Contraception Knowledge</td>
<td>8.76 (2.06)</td>
<td>13.69 (1.88)</td>
<td>5.29 (2.29)</td>
<td>.001</td>
</tr>
</tbody>
</table>

Note: Women’s Health Exam (9 questions total); Contraception (17 questions total)
SELF-EFFICACY FOR CHOOSING A BIRTH CONTROL METHOD AND SCHEDULING A WOMEN’S HEALTH EXAM

Participants’ self-efficacy showed trends toward increases in confidence for choosing the right method of birth control, and scheduling women’s health exams. A paired sample t-test was used to test for statistical significance. Statistical significance was found in the sum score for self-efficacy (p<.001)(see Table 6).

Table 6. Paired differences between Pre- and Post- Evaluation Self-Efficacy

<table>
<thead>
<tr>
<th></th>
<th>Pre Mean (SD)</th>
<th>Post Mean (SD)</th>
<th>Mean Change (SD)</th>
<th>Sig (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy sum score</td>
<td>3.26 (.913)</td>
<td>4.38 (.51)</td>
<td>1.09 (.82)</td>
<td>.001</td>
</tr>
</tbody>
</table>

Notes: Mean change between the pre-evaluation and the post-evaluation
Likert Scale range 1-5; 1=Not at all confident, 2 =Somewhat confident, 3=Neither confident or unconfident, 4= Confident, 5= Absolutely confident
A total of 3 questions were used to measure self-efficacy.

PROS AND CONS

Descriptive statistics were used to look for differences between the pros and cons questions (see Tables 7 and 8). Increases were seen in agreeing with the pros in the pre-evaluation compared to the post-evaluation. The largest increase was seen in the statement that “Using contraceptives lets you have sex without worrying about getting pregnant”, which increased from 29.1% in the pre-evaluation to 60.0% in the post evaluation (see Table 7). Increases were also seen in disagreeing with the cons statements in the post-evaluation when compared to the pre-evaluation. The biggest change in percentage was seen in the statement “Contraceptives cost too much money” which increased from 72.7% of participants disagreeing with this statement in the pre-evaluation to 96.4% disagreeing with the statement in the post-evaluation (see Table 8).
Table 7. Descriptive Statistics for the Pros

<table>
<thead>
<tr>
<th>Statement</th>
<th>Pre Agree N (%)</th>
<th>Post Agree N (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having a women’s health exam can find a problem even before it develops into cancer.</td>
<td>52 (96.3)</td>
<td>53 (98.1)</td>
<td>54</td>
</tr>
<tr>
<td>The Pap test is done quickly and is not a bother to have one.</td>
<td>44 (81.5)</td>
<td>53 (98.1)</td>
<td>54</td>
</tr>
<tr>
<td>Using contraceptives lets you have sex without worrying about getting pregnant.</td>
<td>16 (29.1)</td>
<td>33 (60.0)</td>
<td>55</td>
</tr>
<tr>
<td>Using contraceptives gives you a sense of control.</td>
<td>48 (87.3)</td>
<td>53 (96.4)</td>
<td>55</td>
</tr>
</tbody>
</table>

*Note: Coded as (1) for agree (0) for disagree*

Table 8. Descriptives for the Cons

<table>
<thead>
<tr>
<th>Statement</th>
<th>Pre Disagree N (%)</th>
<th>Post Disagree N (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contraceptives cost too much money</td>
<td>40 (72.7)</td>
<td>53 (96.4)</td>
<td>55</td>
</tr>
<tr>
<td>Contraceptives are too much trouble.</td>
<td>49 (89.1)</td>
<td>53 (96.4)</td>
<td>55</td>
</tr>
<tr>
<td>A women’s health exam is not important to a woman of my age.</td>
<td>55 (98.2)</td>
<td>52 (92.9)</td>
<td>56</td>
</tr>
<tr>
<td>A women’s health exam only finds problems when they are too far along to treat.</td>
<td>53 (95.6)</td>
<td>54 (96.4)</td>
<td>56</td>
</tr>
</tbody>
</table>

*Note: Coded as (1) for agree (0) for disagree*
CHAPTER 5
SUMMARY, CONCLUSIONS, AND
RECOMMENDATIONS

DISCUSSION

The purpose of this study was to evaluate participation in a peer health education gynecological (GYN) workshop. These workshops provided information on women’s health exams and birth control with the aim of increasing college students’ ability to choose a method of birth control, understand what to expect before, during, and after women’s health exams, and increase knowledge of birth control methods and gynecological testing recommendations. A woman’s health exam includes a breast exam, pelvic exam, a Pap smear if necessary, and sexually transmitted infection (STI) testing. The main research question was to determine if participation in the GYN workshops increased participants’ intentions of birth control use and intentions to get women’s health exams, and increased knowledge on these subjects. The study observed increases in frequencies of correct answers in the post-evaluation compared to the pre-evaluation. The majority of participants at the end of the workshops also planned to visit a physician within the next 3 months for a birth control prescription and for a women’s health exam. The results of the study support the research question by showing a significant increase in some of the knowledge-based questions as well as an increase in self-efficacy for choosing a method of birth control, ability to schedule a women’s health exam, and knowing the right time to schedule a women’s health exam. Compared to the pre-evaluation assessment, participants’ increased their understanding of the positive effects of birth control and having a women’s health exam and decreased their misperceptions of the negative effects. These findings suggest that the peer-led workshops may have helped participants move into the action phase as conceptualized by the TTM.
Stages of Change: Participants’ plans to see a doctor for a birth control prescription were 90.9% in next 6 months and 87.5% in the next 3 months following the workshop. At the end of the workshops participants showed intentions to see a doctor, demonstrating that the workshops may be a good transition from increasing knowledge to facilitating behavior change. Similarly, Hopfer (2012) showed the importance of peer-led education and sexual health with a computer-based HPV program. In Hopfer’s study, 404 female college students between the ages of 18-26 were recruited at one university. For the intervention group, participants were shown a series of peer-expert narrative videos on vaccine decision, a narrative delivered by medical experts, or a narrative with a combination of experts and peers. For the control, participants were shown informational videos without narratives, the campus website information on HPV, or were given no message. The participants who received the combined peer-expert intervention had twice the odds of vaccinating 2 months after the intervention compared to controls, demonstrating the importance of using peers while educating students on sexual health information. The workshops at SDSU allowed students to receive information from peer leaders, preparing them for their appointment with a physician. This format allows students access to both peer-delivered information at the workshops and expert-delivered information at the appointment with the physician.

Knowledge acquisition: Significant increases were seen on the pre- versus post-evaluation in participants’ ability to accurately answer the knowledge-based questions on birth control and women’s health exams. One of the significant findings was an increase in knowledge about the Gardasil vaccine, which protects against the four of the most common strains of HPV, in the post-evaluation. There was also an increase in underestimating about Pap exams and their use to detect abnormal cells in the cervix often caused by HPV. Increases in knowledge for different types of hormonal birth control methods were also significant. Specifically, increases were found for knowledge about the birth control patch, Nuva Ring, Depo-Provera (the birth control shot), birth control pills, Long Active Reversible Contraceptives (LARCS), and emergency contraception. Mwaikambo, Speizer, Schurmann, Morgan, and Fikree, (2011) found similar results when they examined family planning interventions between 1996-2008 in developing countries that assessed changes in outcomes directly attributable to the programs in these interventions. In total, 28 interpersonal interventions were reviewed. These interventions targeted one-on-one discussion, small-
group sessions, and facilitator-led curriculum-based programs for adolescents and young adults between the ages of 10-26 years. Mwaikambo et al. (2011) found that most of these studies reported improved knowledge and attitudes about family planning for the participants. Participants who attended the workshops at SDSU increased their knowledge on the different types of birth control and their exposure to a variety of hormonal and non-hormonal methods. Participants also learned about the effectiveness for each type of birth control covered in the workshops. This could lead to participants being more prepared for their visit with the physician. They are able to go to their appointment with a physician with questions about a particular method of birth control or personal questions relating to what they learned in the workshops. The workshops may have facilitated participants’ ability to have more productive appointments with their physicians because they can come in with a basic knowledge of their birth control options.

**Self-efficacy:** Another significant finding was an increase in participants’ self-efficacy. There has been reported limited use of routine gynecological exams based on age group in other studies. A study by Lindley et al. (2009) analyzed data from the National College Health Assessment with a sample of 25,389 sexually active female college students ages 18-24 years. Lindley et al. (2009) found that older sexually active female college students between the ages of 21-24 were more likely to have had a routine exam in the past year compared to younger students between the ages of 18-20. The mean age of the sample of students in the study at SDSU was 19, with 44 out of 56 participants between the ages of 18-20. It is important for the workshops to increase self-efficacy, especially for knowing the right time to schedule an exam, since this population is less likely to have had a routine exam when compared to older students. Increasing self-efficacy for knowing the right time to schedule an exam is important to ensure that participants are keeping up with the recommended women’s health guidelines. Not only do participants need to feel confident in being able to schedule an exam, they also need to know when to schedule their exams so they do not go too long without seeing a provider and potentially miss an important diagnosis.

**Pros and cons of birth control and women’s health exams:** For the stages of change pros and cons scale, barriers and facilitators were examined for both contraception and the women’s health exam. Changes were found for both the pros scale and the cons scale in the post-evaluation compared to the pre-evaluation. Participants demonstrated increases in the
pros for both using birth control and getting women’s health exams and decreases in the cons for using birth control and getting the exams when the post-evaluation was compared to the pre-evaluation. Another study by Tung, Lu, & Cook (2010) used the TTM to examine condom use for college students in Taiwan. Tung et al. (2010) surveyed 996 college students from two universities and asked decision balance (pros and cons) questions relating to condom use. They found that participants in the contemplation and preparation stages were 50% less likely to have a high score in perceived barrier questions (cons) for condom use compared to those in the precontemplation stage (Tung et al. 2010). The results from the study at SDSU showed that by the end of the workshop participants had increases in pros and decreases in cons for questions relating to both birth control and getting a women’s health exam, suggesting that participants were moving closer to the action phase by the end of the workshop. After the workshop, participants were able to identify more benefits for contraception and getting women’s health exams. These findings also demonstrate a decrease in perceptions about potential negative barriers (the cons), which could result in an increase in utilizing birth control or women’s health exam services. According to Redding et al. (1999) the cons to healthy behavior are higher in early stages and decrease across the stages. The higher rate of cons (or barriers) that occurred before the workshop may have affected utilization rates of women’s health exams.

LIMITATIONS

There were several limitations for this study. Because this was a pilot study, a small sample size (n=56) limited the statistical power. Data were collected for one semester, further restricting the sample size due to a short time frame for collection. This convenience sample may not represent all undergraduate female students at SDSU starting birth control or getting their first women’s health exam. There also may have been selection bias based on the way that participants were selected since most participants were referred by physicians from the student health center. Participants were not randomly chosen to be a part of the workshop evaluations. Furthermore, there was no comparison group for the peer-led workshops to determine if peer leaders were effective educators. A comparison group of non-peer faculty leaders could be used in future studies to determine if peer leaders are as effective or more effective than using faculty to deliver the workshops. Additionally, due to time limitations no
follow-up was conducted. Doing a follow-up questionnaire to see if participants saw a physician as intended could have been used to determine if participants moved into the action phase of the TTM, which would help to further assess the effectiveness of the workshops.

Another limitation was the questionnaire design. Individuals were not asked TTM staging questions in the pre-evaluation. This was because the current workshop was set up for participants who were referred by the student health center with interest in making an appointment for a first women’s health exam or birth control prescription. Moreover, evaluation questions based on the workshops were not validated, which reduces the evaluation’s reliability and validity in measuring knowledge. Additionally, due to the pros and cons questions being dichotomous variables, a Cronbach’s alpha test could not be performed to test for internal reliability. Scales for the pros and cons questions could not be created. This limited the statistical tests that could be used to look for significant changes in the pros and cons between the pre- and post-evaluations.

An additional limitation of the study was the length of the workshops. The workshops could not be too long for both the PHEs and participants. Because the workshops ran an entire 60 minutes, this was problematic for participants who had classes starting on the hour. For example, one time workshops ran was from 11:00 am- 12:00 pm, but some students had class starting at 12:00 pm and requested to leave early to get to class on time. Additionally, participants were also students who are often rushed for time with busy schedules. Many students only have a limited time between classes when they are already on campus and do not want to make supplementary trips to campus for the workshops. To ensure that participants had enough time to fill out the post-evaluation, evaluations were kept short and concise. Likewise, PHEs did not get compensation for their time, so workshops needed to be an appropriate length that they could commit to coming each week and be able to attend their classes.

Workshops also had a varying number of participants from 1-5 students. This may have changed the dynamics of the workshops. Additionally, the peer health educators may have delivered information for the workshops with slight differences even though they were all given the same training. Intensive training of survey administration procedures was developed to prevent any inconsistencies that may have arisen by using peer leaders.
**STRENGTHS AND FUTURE DIRECTION**

Despite the above limitations, this study may still be valuable in enhancing the use of peer-led workshops at SDSU and other college campuses. Using peers as educators should be further evaluated as a way to reach the larger campus community in ways that paid staff members may not be able to. Using PHEs to lead the workshops also provides the PHEs with opportunities to become peer leaders, gain responsibility, and work experience. More research is needed on successful peer education standards for programs that can be sustained. This is especially important if the workshops are more heavily advertised for the entire campus community and not predominately attended by students who have been referred by physicians. Not all people are in the same stage of change, or ready to adopt a health behavior (Glanz & Bishop, 2010). Using the stages can be helpful for a community, such as the student population at SDSU, to address readiness of change. Addressing the students at the proper stage is an important part of workshop success (Glanz & Bishop, 2010). Students who are in the earlier stages may need different information than students who are getting closer to the action stage.

**CONCLUSION**

This was a pre- and post-evaluation study of the peer-led GYN workshops offered at SDSU. The study contributes to the evaluation of peer-led workshops offered through Health Promotion at SDSU. The results of this study can be used to increase utilization of peer workshops at SDSU. The workshops provided information on birth control and women’s health exams to female students seeking these services at the student health center for the first time. The intent of the workshops was to encourage participants to make appointments for the services they need and to increase their knowledge on birth control methods and gynecological testing recommendations. This workshop also demonstrated that using peer educators can be a successful way to distribute information to the college population. The post-evaluation showed increases in knowledge and increases in self-efficacy to make an appointment for a women’s health exam. The majority of participants were planning to see a physician within three months for a birth control prescription and a women’s health exam at the end of the workshop.
REFERENCES


APPENDIX

SURVEY INSTRUMENTS

GYN Evaluation Pre-Test

Please answer the following:

I am a:
- [ ] Freshman (first year student)
- [ ] Sophomore (second year student)
- [ ] Junior (Third year student or first year transfer student)
- [ ] Senior (4+ year student)
- [ ] Graduate student

Age:
- [ ] Younger than 18 years
- [ ] 18 years
- [ ] 19 years
- [ ] 20 years
- [ ] 21 years
- [ ] 22 years
- [ ] 23 years
- [ ] 24 years
- [ ] 25 years
- [ ] 26 or more years

Ethnic Origin:
- [ ] American Indian or Alaska Native
- [ ] Asian/Pacific Islander
- [ ] Black or African American
- [ ] Hispanic or Latino
- [ ] White
- [ ] Other
- [ ] Decline to state

Current Residency:
- [ ] On campus resident
- [ ] Off campus resident

I came to this workshop seeking:
- [ ] Birth Control only
- [ ] Women’s Health Exam (Pap smear) only
- [ ] Birth Control and a Women’s Health Exam (Pap smear)
- [ ] Other ________________________________
1. How confident are you in choosing a method of birth control that is right for you?

1 Not at all confident 2 Somewhat or unconfident 3 Neither confident or unconfident 4 Confident 5 Absolutely confident

2. How confident do you feel in your ability to schedule a Woman’s Health Exam?

1 Not at all confident 2 Somewhat or unconfident 3 Neither confident or unconfident 4 Confident 5 Absolutely confident

3. How confident do you feel in knowing the right time to schedule regular Women’s Health Exams?

1 Not at all confident 2 Somewhat or unconfident 3 Neither confident or unconfident 4 Confident 5 Absolutely confident

4. Having a women’s health exam can find a problem even before it develops into cancer.

1 Agree 2 Disagree

5. The Pap test is done quickly and is not a bother to have one.

1 Agree 2 Disagree

6. A women’s health exam only finds problems when they are too far along to treat.

1 Agree 2 Disagree

7. A women’s health exam is not important to a woman of my age.

1 Agree 2 Disagree

8. Using contraceptives lets you have sex without worrying about getting pregnant.

1 Agree 2 Disagree

9. Using contraceptives gives you a sense of control.

1 Agree 2 Disagree
10. Contraceptives cost too much money

1 Agree

2 Disagree

11. Contraceptives are too much trouble.

1 Agree

2 Disagree

Please answer the following questions:

1] What should you bring to your exam?
   A. Red ID card
   B. Family Pact card (if you have one)
   C. Current birth control prescription (if you have one)
   D. LMP (date of last menstrual period)
   E. All of the above

2] A women’s health exam is an umbrella term covering what services?
   A. Pelvic exam (may include a Pap smear)
   B. Breast exam
   C. STD testing
   D. Birth control prescriptions
   E. All of the above

3] A pap smear is a particular test looking for abnormal cells that could possibly lead to cancer. At what age should women start receiving pap smears as part of their women’s health exam?
   A. 16 years old
   B. 18 years old
   C. 21 years old
   D. 25 years old
   E. When you become sexually active

4] Pap smear looks for what virus?
   A. Human Papillomavirus (HPV)
   B. Human Immunodeficiency Virus (HIV)
   C. Syphilis
   D. Chlamydia
   E. All viruses

5] The pelvic exam has an external and internal portion. What device is used in the internal portion to keep the vaginal canal open?
   A. Stirrups
B. Speculum  
C. Tongs  
D. Nothing is used

6] Is it normal to have spotting or cramping a few hours after your pelvic exam?  
   a. Yes  
   b. No  

7] Hormonal birth control contains which two hormones?  
   A. Androgen & Estrogen  
   B. Progestogen & Androgen  
   C. Estrogen & Progestogen  
   D. Inhibin & Estrogen  
   E. Progestogen & Inhibin  

8] ACHES is an acronym for rare but serious symptoms of hormonal birth control. What does ACHES stand for?  
   A. Abdominal Pain, Cramps, Heart problems, Eye problems, Severe leg cramps  
   B. Abdominal pain, Chest pain, Headaches, Eye problems, Severe leg cramps  
   C. Arm pain, Cramps, Headaches, Ear pain, Strokes  
   D. Arm pain, Chest pain, Heart problems, Ear pain, Severe stomach pain  
   E. Abdominal pain, Cramps, Heart problems, Ear pain, Strokes  

* If you have any of these symptoms, see your doctor ASAP

9] Most Oral Contraceptives have how many weeks of active pills? And how many weeks of placebo/sugar pills? (There are some exceptions to this type of oral contraception.)  
   A. Three weeks of active pills & one week of placebo pills  
   B. Two weeks of active pills & two weeks of placebo pills  
   C. One week of active pills & three weeks of placebo pills  
   D. Two weeks of active pills & one week of placebo pills  
   E. All are active pills & no placebo pills

10] How long should you use a backup method (condom) after starting birth control pills?  
   A. Always  
   B. 2-3 days  
   C. One week  
   D. One month  
   E. 3 months

11] Is it medically safe to use birth control designed to limit the number of periods you have each year?  
   a. Yes  
   b. No

12 a] If you miss a birth control pill and had unprotected sex (sex without a condom) you should take emergency contraception. What should do you about making up 2-3 missed pills?
2-3 pills: A. Take them normally, once a day.
   B. Take two a day until you’re caught up with the pack.
   C. Start a new pack.

12 b] What about if you missed four pills?
4 pills:  A. Take them normally, once a day.
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   B. $15
   C. $20
   D. $25
   E. Free
GYN Evaluation Post-Test

1. How confident are you in choosing a method of birth control that is right for you?
   - 1 Not at all confident
   - 2 Somewhat unconfident
   - 3 Neither confident or unconfident
   - 4 Confident
   - 5 Absolutely confident

2. How confident do you feel in your ability to schedule a Woman’s Health Exam?
   - 1 Not at all confident
   - 2 Somewhat unconfident
   - 3 Neither confident or unconfident
   - 4 Confident
   - 5 Absolutely confident

3. How confident do you feel in knowing the right time to schedule regular Women’s Health Exams?
   - 1 Not at all confident
   - 2 Somewhat unconfident
   - 3 Neither confident or unconfident
   - 4 Confident
   - 5 Absolutely confident

4. Having a women’s health exam can find a problem even before it develops into cancer.
   - 1 Agree
   - 2 Disagree

5. The Pap test is done quickly and is not a bother to have one.
   - 1 Agree
   - 2 Disagree

6. A women’s health exam only finds problems when they are too far along to treat.
   - 1 Agree
   - 2 Disagree

7. A women’s health exam is not important to a woman of my age.
   - 1 Agree
   - 2 Disagree

8. Using contraceptives lets you have sex without worrying about getting pregnant.
   - 1 Agree
   - 2 Disagree
9. Using contraceptives gives you a sense of control.
   1 Agree  2 Disagree

10. Contraceptives cost too much money
    1 Agree  2 Disagree

11. Contraceptives are too much trouble.
    1 Agree  2 Disagree

12. In the next 6 months do you plan to see a doctor to get a Women’s Health Exam?
    1 Yes  2 No

13. In the next 3 months, do you plan to see a doctor to get a Women’s Health Exam?
    1 Yes  2 No

14. In the next 6 months, do you plan to see a doctor to get a birth control prescription?
    1 Yes  2 No

15. In the next 3 months, do you plan to see a doctor to get a birth control prescription?
    1 Yes  2 No

16. I believe this session was beneficial.
    1 Strongly disagree  2 Disagree  3 Neutral  4 Agree  5 Strongly agree

17. I would recommend this session to a friend.
    1 Strongly disagree  2 Disagree  3 Neutral  4 Agree  5 Strongly agree
18. I thought the session leader was knowledgeable.

<table>
<thead>
<tr>
<th>1 Strongly disagree</th>
<th>2 Disagree</th>
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19. I thought the session leader was an effective educator

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20. I felt comfortable at the session.

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Why or why not?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Please answer the following questions:

1] What should you bring to your exam?
   A. Red ID card
   B. Family Pact card (if you have one)
   C. Current birth control prescription (if you have one)
   D. LMP (date of last menstrual period)
   E. All of the above

2] A women’s health exam is an umbrella term covering what services?
   A. Pelvic exam (may include a Pap smear)
   B. Breast exam
   C. STD testing
   D. Birth control prescriptions
   E. All of the above

3] A pap smear is a particular test looking for abnormal cells that could possibly lead to cancer. At what age should women start receiving pap smears as part of their women’s health exam?
   A. 16 years old
   B. 18 years old
   C. 21 years old
   D. 25 years old
   E. When you become sexually active

4] Pap smear looks for what virus?
   A. Human Papillomavirus (HPV)
   B. Human Immunodeficiency Virus (HIV)
   C. Syphilis
   D. Chlamydia
   E. All viruses

5] The pelvic exam has an external and internal portion. What device is used in the internal portion to keep the vaginal canal open?
   A. Stirrups
   B. Speculum
   C. Tongs
   D. Nothing is used

6] Is it normal to have spotting or cramping a few hours after your pelvic exam?
   a. Yes
   b. No
7] Hormonal birth control contains which two hormones?
   A. Androgen & Estrogen
   B. Progestogen & Androgen
   C. Estrogen & Progestogen
   D. Inhibin & Estrogen
   E. Progestogen & Inhibin

8] ACHES is an acronym for rare but serious symptoms of hormonal birth control. What does ACHES stand for?
   A. Abdominal Pain, Cramps, Heart problems, Eye problems, Severe leg cramps
   B. Abdominal pain, Chest pain, Headaches, Eye problems, Severe leg cramps
   C. Arm pain, Cramps, Headaches, Ear pain, Strokes
   D. Arm pain, Chest pain, Heart problems, Ear pain, Severe stomach pain
   E. Abdominal pain, Cramps, Heart problems, Ear pain, Strokes

   * If you have any of these symptoms, see your doctor ASAP

9] Most Oral Contraceptives have how many weeks of active pills? And how many weeks of placebo/sugar pills? (There are some exceptions to this type of oral contraception.)
   A. Three weeks of active pills & one week of placebo pills
   B. Two weeks of active pills & two weeks of placebo pills
   C. One week of active pills & three weeks of placebo pills
   D. Two weeks of active pills & one week of placebo pills
   E. All are active pills & no placebo pills

10] How long should you use a backup method (condom) after starting birth control pills?
   A. Always
   B. 2-3 days
   C. One week
   D. One month
   E. 3 months

11] Is it medically safe to use birth control designed to limit the number of periods you have each year?
   a. Yes
   b. No

12 a] If you miss a birth control pill and had unprotected sex (sex without a condom) you should take emergency contraception. What should you do about making up 2-3 missed pills?
   2-3 pills: A. Take them normally, once a day.
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   C. Start a new pack.

12 b] What about if you missed four pills?
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