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MOODLE-BASED CHLAMYDIA AWARENESS PROJECT TO INCREASE INTENTION TO TEST IN COLLEGE FRESHMEN MALES: A DNP SCHOLARLY PROJECT

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By

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MOODLE-BASED CHLAMYDIA AWARENESS PROJECT TO INCREASE INTENTION TO TEST IN COLLEGE FRESHMAN MALES: A DNP SCHOLARLY PROJECT

This DNP Scholarly Project by Adam Joseph Burri is recommended for approval by the student's Faculty Chair, Committee and Department Head in the School of Nursing

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ABSTRACT

MOODLE-BASED CHLAMYDIA AWARENESS PROJECT TO INCREASE INTENTION TO TEST IN COLLEGE FRESHMAN MALES: A DNP SCHOLARLY PROJECT

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In 2016, there were over 1.5 million cases of chlamydia reported in the United States with prevalence rates highest in people under 25 years of age (Centers for Disease Control and Prevention, 2017). Researchers have suggested that college aged adults (age 18-25) should be targeted for chlamydia educational programs because these individuals are lacking in knowledge about chlamydia prevention, infection, symptoms, and screening methods (Goundry, Finlay, & Llewellyn, 2013; Rutledge, Siebert, Chonody, & Killian, 2011). This scholarly project utilized a quasi-experimental, single-group pretest-posttest design and used a modified version of the Sex, Drugs, and Rock'n'Roll Questionnaire designed by Lim et al. (2012) to identify whether implementation of an online course entitled Chlamydia Awareness Project increased intention to test for chlamydia in a convenience sample of college freshman males at a Midwestern university. In addition, knowledge of chlamydia (including risk factors for infection, symptoms, and screening methods) was assessed. College freshmen males were targeted for this project because they are at an increased risk for chlamydia infection and lack clear screening recommendations (Centers for Disease Control and Prevention [CDC], 2013; LeFevre, 2014). A Wilcoxon signed rank test was used to compare median Likert survey scores in participants prior to and after the online educational intervention. Results from the analyses did not identify statistically significant differences in respect to intention to test for chlamydia, risk factor for infection, or symptoms. However, there were statistically significant differences in participants'

knowledge about non-invasive urine based testing (p = .043). Limitations included a small sample size and lack of a reliable and valid tool which limits the ability to generalize these findings to the population. The results of this scholarly project provide some support for the idea that a brief, online educational intervention increases knowledge about non-invasive screening methods for chlamydia infection in college freshmen males.

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Chapter One

Currently, the most commonly reported sexually transmitted infection (STI) in the United States (U.S.) is *Chlamydia trachomatis* (Centers for Disease Control and Prevention, [CDC], 2017). In 2016, there were over 1.5 million cases of chlamydia reported with prevalence rates highest in people under 25 years of age (CDC, 2017). Once infected, most patients do not experience symptoms, although some experience dysuria and vaginal/penile discharge (Mishori, McClasky, & Winklerprins, 2012). Symptoms associated with long-term chlamydia infection in men and women include urethritis, epididymo-orchitis, pelvic inflammatory disease, and infertility (Mishori et al., 2012). The CDC (2017) provides screening recommendations for sexually active females under 25 years of age. However, there are no current screening recommendations for asymptomatic, heterosexual males (Keegan, Diedrich, & Peipert, 2014).

Background and Significance

Researchers have found that college students are lacking in knowledge about the nature of chlamydia infection, symptoms, and screening methods (Rutledge et al., 2011). As a result, researchers have suggested that college students should be targeted to receive education about chlamydia prevention, infection, symptoms, and screening methods (Booth, Norman, Harris, & Goyder, 2014; Knight et al., 2012; McNulty et al., 2014; J. A. Shoveller, Knight, Johnson, Oliffe, & Goldenberg, 2010). Most chlamydia awareness campaigns, such as the "Get Yourself Tested Campaign", use social media and marketing tools to raise awareness about the impact of STI's on public health and to provide education on STI prevention, testing, and treatment (CDC, 2017). Moore, Smith, and Folsom (2012) delivered an online educational program to college freshman students and found that their knowledge of STI's and sexual health self-efficacy increased. Similarly, Booth, Norman, Harris, and Goyder (2014) reported that using an educational

approach to promote chlamydia testing improved participants' intention to receive testing and ten Hoor et al. (2016) found that intention to receive testing for chlamydia served as a significant predictor of current and future testing behavior.

Statement of Purpose

The primary purpose of this DNP scholarly project was to identify if implementation of an online course, entitled Chlamydia Awareness Project, increased intention to test for chlamydia in a convenience sample of college-aged males at a Midwestern university. In addition, knowledge about chlamydia (including risk factors for infection, symptoms, and screening methods) was assessed before and after participation in the online course. College freshmen males were targeted for this project because they are at an increased risk for chlamydia infection and lack clear screening recommendations (Centers for Disease Control and Prevention [CDC], 2013; LeFevre, 2014). Researchers have suggested that this demographic is poorly informed about risk factors associated with chlamydia infection, have a knowledge deficit about the disease and testing procedure, and exhibit social embarrassment related to sexual health seeking behaviors (Chaudhary et al., 2008; Goundry, Finlay, & Llewellyn, 2013; Wyatt & Oswalt, 2014). To address these issues, an internet-based educational course was designed by the student researcher using modules with content derived from evidence-based resources including the CDC (2017) and the United States Preventive Services Task Force (LeFevre [USPSTF], 2014). The modules include information about chlamydia infection, demographic groups that are considered to be high risk for infection, testing methods, treatment, and local healthcare resources. The university learning management system was the platform that housed the educational modules. Using Qualtrics software, a modified version of the Sex, Drugs, and Rock'n'roll Questionnaire by Lim et al. (2012) was used to measure intention-to-test, in addition

to risk factors for infection, symptoms, and screening methods prior to and one-month after completion of the educational course. Using a quasi-experimental single group pretest-posttest design, a Wilcoxon signed rank test was used to compare participant scores on the survey.

Theoretical Framework

Pender's Health Promotion Model (HPM) was used as the theoretical framework for this scholarly project. The HPM focuses on health promotion and explores the different processes that motivate individuals to engage in health-seeking behaviors (McEwen & Wills, 2011). In this scholarly project, college students were selected to receive health promotion education because researchers have indicated that young adults often engage in risky behavior as they enter the university setting (Moore & Smith, 2012; Reel & Hellstrom, 2013). Health promotion interventions have been found to improve population health and are most effective when they are delivered in settings where people spend most of their time such as the university (McEwen & Wills, 2011). Pender's (2011) model provided important components to this health promotion-focused, educational campaign intended to enhance knowledge and self-care in college-aged males.

Chapter Two

Literature Review

A literature review was conducted using search engines CINAHL, PubMed, and the Cochrane Database. Research articles that had been published within the last ten years were chosen. Search terms included the following: genital chlamydia infection, screening, testing, sexually transmitted disease, STD, sexually transmitted infection, STI, college, men, barriers, intention to test, behavioral interventions and online sexual health education. Terms not related to the target population and/or addressed other topics were excluded.

Chlamydia Trachomatis Infection

Chlamydia trachomatis is a gram-negative obligate intracellular organism belonging to the genus *Chlamydia* (Clarke, 2011). Infection is usually acquired through sexual contact. Once infection has occurred, thousands of organisms are released through cell lysis within 48 to 72 hours (Clarke, 2011). Although 90% of genital chlamydia infections are thought to be asymptomatic, some women experience cervical and/or urethral inflammation and men may experience testicular and/or urethral inflammation (Ljubin-Sternak & Mestrovic, 2014; Reagan, Xu, Shih, Secura, & Peipert, 2012; Woodhall, 2016). In both genders, the inflammatory nature of the infection has been shown to influence fertility and researchers have suggested that long-term, untreated genital chlamydia infection is a major cause of female infertility today (Ljubin-Sternak & Mestrovic, 2014).

One of the most studied chlamydia-associated complications is pelvic inflammatory disease [PID] (Ljubin-Sternak & Mestrovic, 2014). PID is diagnosed based on clinical findings including an oral temperature over 101 °F, abnormal cervical or vaginal mucopurulent discharge, cervical friability (weakness or tenderness of the tissue), vaginal discharge containing an

abundant numbers of white blood cells, and documentation of cervical infection with gonorrhea or chlamydia (Centers for Disease Control and Prevention, 2011; Ljubin-Sternak & Mestrovic, 2014; Workowski, Berman, & Centers for Disease Control and Prevention (CDC), 2010). PID may eventually lead to scarring and adhesions in the female pelvic organs which contributes to fallopian tube-related infertility and ectopic pregnancy (Ljubin-Sternak & Mestrovic, 2014; Woodhall, 2016). Detecting and treating lower genital chlamydia infections in women to prevent PID is a primary goal of chlamydia screening programs (Low, Redmond, et al., 2013).

Chlamydia Diagnosis and Treatment

Diagnosis of chlamydia infection was originally performed through the use of cell culture in the early 1960s. Nonculture tests including direct fluorescent antibody microscopy, enzyme immunoassays, and nucleic acid hybridization tests were developed in the 1980's (Low et al., 2013). Nucleic acid amplification tests (NAAT's) are lab tests which detect and amplify the DNA of pathogens. NAAT's first became available in the mid-1990's and are considered to be the gold standard for chlamydia testing (LeFevre, 2014; Low, Redmond, et al., 2013). Samples are collected via clean-catch urine or vaginal/urethral swab. The NAAT is 97.6% and 99.5% sensitive and specific respectively and provides a non-invasive testing option for men and women (Balfe et al., 2012; Taylor et al., 2012). In the past, men were tested using urethral swabs which tends to be irritating and can be painful. Since 2000, all health care providers in the United States are required to report positive chlamydia test results to their local health department (Centers for Disease Control and Prevention, 2017).

Treatment of chlamydia infection includes taking the antibiotic azithromycin in a single 1 gram dose (Mishori et al., 2012). Alternate antibiotic regimens include doxycycline 100 mg twice daily for seven days, erythromycin 500 mg four times daily for seven days, erythromycin

ethylsuccinate 800 mg four times daily for seven days, levofloxacin 500 mg once daily for seven days and ofloxacin 300 mg twice daily or 600 mg once daily for seven days (Mishori et al., 2012). For pregnant women, azithromycin, erythromycin ethylsuccinate, and amoxicillin are acceptable regimens (Mishori et al., 2012). After treatment, men and non-pregnant women should be retested in three months or when they next present for medical care within 12 months (Mishori et al., 2012). Sexual partners should be notified and referred for evaluation, testing, and treatment if they engaged in sexual contact within 60 days before a diagnosis was made or at the onset of symptoms (Mishori et al., 2012). All those being treated for chlamydia infection should refrain from sexual intercourse until seven days after the single dose azithromycin or after completion of the multi-dose regimen and after sexual partners have completed treatment (Mishori et al., 2012).

Prevalence of Chlamydia Infection

The World Health Organization (2016) estimates that globally there are 131 million cases of chlamydia each year with prevalence rates ranging from 3% to 6% among sexually active, young heterosexual adults. In the U.S., chlamydia is the most commonly reported STI with over 1.5 million cases in 2016 (CDC, 2017; Chow & Bauer, 2016). Prevalence rates are highest among sexually active young adults who are under 25 years of age (Low, Redmond, et al., 2013; Mishori et al., 2012). In 18-26 year old males, it is estimated that between 6% and 7% are infected with chlamydia but do not have symptoms (Mishori et al., 2012). In a retrospective analysis of survey data collected from 789 students at 10 universities in the U.S., researchers McCave, Chertok, Winter, and Haile (2012) found that chlamydia prevalence rates ranged from 8% to 10% and in some instances were as high as 17%. These prevalence rates are much higher than those found in the general population. (McCave et al., 2012; Moore, 2013). According to

the CDC (2017), the number of reported chlamydia cases is increasing exponentially with cases increasing by 9.2% since 2015 with the highest rates in 20 to 24 year-old males (CDC, 2017).

Chlamydia Screening Recommendations in the United States

Screening guidelines in the U.S. have been in place since the early 1990's and diagnosis and testing rates have increased steadily since that time (Bani et al., 2013; Scholes et al., 2012). Current recommendations in the U.S. are to screen all sexually active females 24 years-old or younger and older women who are at an increased risk for infection, specifically those who have new or multiple sex partners (CDC, 2017; LeFevre, 2014). While the United States Preventive Services Task Force (LeFevre [USPSTF], 2014) and the CDC (2017) currently recommend annual chlamydia screening for men who have sex with men, they recommend against universal chlamydia screening of young heterosexual men. However, the USPSTF (LeFevre, 2014) and the CDC (2017) do recommend screening heterosexual men in specific high risk groups such those that are encountered in corrections facilities, sexually transmitted infection (STI) testing clinics, and school and adolescent clinics that have increased chlamydia prevalence rates (LeFevre, 2014).

Barriers to Screening in Males

According to researchers, stigma and other variables serve as a barriers to sexual health seeking behavior in a number of ways (Hood & Friedman, 2011). In a systematic review of 141 articles published between 2008 and 2010 in the United States, Hood and Friedman (2011) sought to identify variables that served as barriers to sexual health seeking behavior. The authors found that having an absence of symptoms, negative societal attitudes (stigma), and concerns about receiving a positive test result all served as barriers to sexual health seeking behavior.

Hood and Friedman (2011) also discovered that STI's were associated with social stigma because they were viewed as symbols of immoral or irresponsible behavior.

Theunissen et al. (2015), in a qualitative study in the Netherlands used semi-structured interviews to assess stigma experiences in 25 college-aged heterosexual men and women who had either never been tested or who had been tested before for chlamydia. The researchers found that the study participants perceived stigma from themselves and from the public which was evidenced by feelings of shame when they received testing for chlamydia (Theunissen et al., 2015).

In another qualitative study, Barth, Cook, Downs, Switzer, and Fischhoff (2002) conducted semi-structured interviews with 41 college students and attempted to identify and describe key factors that influence STI test-seeking behavior. Using qualitative content analysis, the researchers found that cultural perceptions and social norms associated with masculinity heightened the effects of stigma, which served as a major barrier to chlamydia testing in men. In addition, the researchers also identified stigma as a key factor that influenced intention to test in the study participants (Barth et al., 2002).

Educational Interventions to Reduce Stigma

Researchers have suggested that young adults who successfully overcome barriers to testing are more likely to test again in the future and recommend testing to a friend (Hartney, Baraitser, & Nardone, 2015). Hartney et al. (2015), in a cross-sectional observational study examined the impact of initial STI testing on young adults' subsequent sexual health care-seeking behavior. The researchers analyzed web-based survey results from 1,183 college-aged male and female individuals in England. The survey included questions about the behavioral impact of testing, attitudes toward chlamydia testing, and demographic information, including

testing history and recent sexual behavior. The researchers found that participants who had received initial testing were more likely to seek subsequent testing (Hartney et al., 2015).

Balfe et al. (2012) conducted a literature review to examine factors that discouraged men from pursuing chlamydia screening. A total of 48 peer-reviewed studies published between 1999 and 2009 were examined and the researchers found that attitudes about chlamydia testing were influenced by the participants' level of knowledge about chlamydia infection, perceived vulnerability to acquiring chlamydia infection, and perceptions of stigma that were associated with testing.

Educational Interventions to Increase Sexual Health Knowledge

In a longitudinal descriptive study, Rutledge et al. (2011) explored college students' perceived knowledge of sexuality and STI's before and after taking a human sexuality course. Anonymous, voluntary surveys were administered to students from 2004 until 2006 and information was gathered in relation to self-perceived knowledge about sexuality and STI's. The researchers found that the students perceived that they were knowledgeable about STIs but often overestimated their level of knowledge. The researchers recommended that college courses address sexuality as an integral part of the college experience and focus on risk reduction for sexually transmitted diseases, sexual assaults, and unintended pregnancy (Rutledge et al., 2011).

Vail-Smith et al. (2010), in a prospective observational cohort study, sought to examine risky sexual behaviors among college students. The researchers developed a survey that was used to assess the following behaviors: (a) lifetime participation in sexual encounters, (b) number of sexual partners, (c) use of condoms and birth control, (d) use of alcohol or drugs before sex, and (e) emergency contraception. The survey was administered to 905 freshmen from fall until spring of 2008. After reviewing the data, the researchers concluded that sexual health

educational interventions should be developed and delivered to incoming freshman that motivate students to seek chlamydia testing and emphasize risks inherent in any sexual behavior (Vail-Smith et al., 2010).

In a qualitative study, Goundry, Finlay, and Llewellyn (2013) conducted focus group discussions with 60 undergraduate students in three universities in England to examine their level of STI knowledge and beliefs about the consequences of untreated STI's. The focus groups took place between February and March 2012 with sessions lasting approximately 45 minutes in length. Data were analyzed using a Framework Analysis Approach. The researchers found that most incoming freshmen perceived themselves as being knowledgeable about STI's but did not realize that chlamydia infection can be present without symptoms and they were unaware that untreated chlamydia could lead to complications such as infertility. The researchers suggested that education should be provided to college students that illustrates associations between chlamydia infection and pelvic inflammatory disease, epididymitis, and infertility (Goundry et al., 2013).

Wyatt and Oswalt (2014) in a cross-sectional observational study explored sexual behaviors of college freshmen. The researchers sent online surveys from 2007 to 2009 to 5,000 college freshmen students enrolled at a large university in the Southwest United States. The survey questions measured the frequency of safe sex practices, contraceptive use in the last 30 days, and STI history. Four-hundred thirty-three students completed the survey. The researchers found that few participants practiced safe sex consistently and male respondents reported higher numbers of sexual partners in comparison to females. After reviewing the study results, the researchers recommended that university first year experience programs should collaborate with

campus health centers to identify ways to increase awareness about STI resources and provide information about services that are available to freshmen (Wyatt and Oswalt, 2014).

In a cross-sectional observational study, Richman, Webb, Brinkley, and Martin (2014) examined sexual health behaviors, mobile technology use, and interest in a mobile health application in 5,000 randomly selected undergraduate college students in the U.S. Upon completion of the survey, participants were directed to an exit page that contained local health resources. Results of the study showed that over two-thirds of the sample reported they would be interested in using mobile technology to help improve their sexual health and specified that STI symptom information would be a useful feature. Incidentally, the researchers found that students were most interested in online sexual health information that included creative and humorous images (Richman et al., 2014).

Lim et al. (2012), in a randomized controlled trial, attempted to determine whether sending emails or short messaging service (SMS) messages resulted in increased knowledge about STIs and STI testing behaviors. Over 900 young adults (ages 16-29) were recruited for the study. Study participants were randomly assigned to receive sexual health promotion messages via email/SMS or to a control group that did not receive messages. Study participants completed the Sex, Drugs and Rock'n'Roll questionnaire at three, six, and 12-month intervals. At the end of 12 months, STI knowledge was found to be significantly higher in the intervention group than the control group. In addition, women were more likely to have undergone STI testing and to have discussed sexual health with a general practitioner compared to men. The researchers noted that the results were concerning because there is a current lack of chlamydia screening recommendations in place for males (Lim et al., 2012).

Educational Interventions to Increase Intention to Test for STI's

In an observational study, McCave, Chertok, Winter, and Haile (2012) sought to determine whether there was a relationship between receiving sexual health education and subsequent sexual health practices and behaviors. An Internet survey that was entitled The National College Health Assessment Survey, was used to assess the sexual health practices of 2,297 randomly selected, full-time undergraduate and graduate college students during the 2010-2011 academic year. The researchers found that safer sex practices, including using a male condom during the most recent episode of vaginal intercourse, were significantly associated with having received prior sexual health education ($p = 0.020$). In response to these findings, the researchers suggested that health professionals provide education on safe sex practices (McCave et al., 2012).

In an observational study, Moore (2013) examined college students' motivation to receive testing for STI's and reasons for lack of motivation. A 26-item survey was administered to college students in the U.S. on seven different occasions throughout the 2010-2011 academic year. The researchers found that those who were motivated to get tested within the next three months were also more likely to have been tested in the past, and that female participants reported they had been tested for STI's more often than male participants. The researchers suggested that health professionals should be encouraged to facilitate testing in college-aged males in spite of the lack of screening recommendations for asymptomatic heterosexual men (Moore, 2013).

In a cross-sectional study, Boudewyns and Paquin (2011) sought to identify factors that determined whether college undergraduate student intended to receive testing for STI's. Data were collected via an online survey from 181 undergraduate students at a large Midwestern

university. The theory of planned behavior was used to gain insight into the cognitive processes underlying intention to receive STI testing. The researchers found that the strongest predictor of intention to test was attitude followed by subjective norms. Subjective norms was defined "as a person's perception that important others think that he or she should or should not perform the behavior" and attitude was defined as "the degree to which a person holds a positive or negative evaluation of a given behavior" (Boudewyns & Paquin, 2011, p. 702). This study was replicated by the same researchers at another large university with 160 undergraduate students and the researchers found similar results; attitudes were the strongest predictor of intention to test for STD's followed by subjective norms (Boudewyns & Paquin, 2011). The researchers suggested that health care providers should attempt to persuade young adults to get tested for STI's as a way to show respect for their sexual partners (Boudewyns & Paquin, 2011).

Literature Review Summary

A review of the literature provides evidence to suggest that chlamydia prevalence is higher in the college-aged population in comparison to individuals in other age groups (Low, Geisler, Stephenson, & Hook, 2013; McCave et al., 2012; Mishori et al., 2012). Therefore, sexual health educational interventions should be targeted at college students due to increased prevalence rates (Balfe et al., 2012; Hartney et al., 2015). Researchers also provided support for the idea that social stigma and other variables serve as barriers which negatively influence male STI screening rates (Barth et al., 2002; Hood & Friedman, 2011; Theunissen et al., 2015).

Online sexual health educational interventions have been well received by college students and several studies have shown that these types of educational interventions reduce social stigma, increase knowledge about STI's, and increase intention to receive testing for STI's (Booth et al., 2014; Boudewyns & Paquin, 2011; Lim et al., 2012; McCave et al., 2012; Newby, Wallace, &

French, 2012; Richman et al., 2014; ten Hoor et al., 2016). Although current screening recommendations from the CDC (2017) and the USPSTF (LeFevre, 2014) do not support regular chlamydia screening for most college-age, heterosexual males, the CDC (2017) does recommend screening for high risk, heterosexual males, including individuals in corrections facilities, sexually transmitted infection (STI) screening clinics, and university/adolescent school clinics that have high prevalence rates.

Theoretical Framework

The Health Promotion Model (HPM) was used as the theoretical framework for this scholarly project (Pender, 2011). The HPM can be used to assist advanced practice nurses in understanding determinants of health behaviors as a basis for behavioral counseling to promote healthy lifestyles. The model proposes that humans interact with the environment and shape it to meet their needs and goals. Key components of the theory include identification of individual characteristics that shape health behavior, manipulating the environment to create positive health behaviors, and facilitation of health-enhancing behaviors through interventions.

The components of the HPM include three categories and respective subcategories (Pender, 2011). The three categories include individual characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcomes and health promoting behavior. The subcategories of individual characteristics and experiences are prior related behavior and personal factors. Subcategories of behavior specific cognitions and affect are perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity-related affect, interpersonal influences, situational influences, commitment to a plan of action, and immediate competing demands and preferences. Finally, the subcategory of behavioral outcome and health promoting behavior is health promoting behavior (Pender, 2011).

An examination of college-aged male individual characteristics and experiences is helpful in gaining an understanding about the reasons why these individuals are at an increased risk for acquiring chlamydia infection. Some of these factors include having multiple sexual partners and engaging in risky sexual behavior (McCave, Chertok, Winter, & Haile, 2012; Moore, Smith, & Folsom, 2012)(references). These and other factors were examined in the literature review of this manuscript and were used as a rationale to implement this scholarly project. In addition, several of the subcategories of behavior-specific cognitions and affect were examined in the literature review section of this manuscript. For instance, findings from several studies supported the idea that stigma serves as a barrier that keeps college-age males from receiving education about chlamydia infection, testing, and treatment (Balfe et al., 2012; Booth et al., 2014; Jenkins, DiLalla, & Dzara, 2012; McCave et al., 2012). To address this issue, the Chlamydia Awareness Project educational modules were designed by the student researcher in an attempt to reduce stigma and eliminate barriers so that sexual health outcomes might improve.

Chapter Three

Methods

Purpose and Sample

The primary purpose of this DNP scholarly project was to identify if implementation of an online course, entitled Chlamydia Awareness Project, would increase intention to test for chlamydia in a convenience sample of college-aged males at a Midwestern university. In addition, level of knowledge was assessed before and after the educational course in relation to risk factors for chlamydia infection, chlamydia symptoms, and screening methods. Freshmen males, ages 18 to 24, who were enrolled in the FYE courses received an invitation to participate in the study. All first time, undergraduate students at the student researcher's university are required to participate in the FYE program with the intended goals of helping students maximize their academic success, become familiar with campus resources, and cultivate positive relationships with the university community. An appropriate sample size was estimated using an online sample size calculator (Creating Research Systems, 2012). Using a 95% confidence level, a population estimate of 515 males, and a confidence interval of 0.05, the sample size was calculated to be a minimum of 220 participants.

Project Approval

Prior to obtaining Institutional Review Board approval, information about the scholarly project was presented to the university's Academic Provost, staff at the Center for Teaching and Learning, and Registrar to allow for opportunities to ask questions and provide suggestions. An administrative level of IRB approval was obtained from the university in spring 2017 and data were collected during fall semester 2016 (Appendix A). Consent was obtained prior to

participation in the study using a pre-intervention online Chlamydia Awareness Survey (Appendix B).

Procedures

Using Moodle-based software within a learning management system, an online course entitled Chlamydia Awareness Project (Appendix C), was created by the student researcher. Learning management systems are online course management platforms used for teaching that provide instructors with the ability to create presentations, assignments, quizzes, and discussion forums that allow for asynchronous learning to take place. A total of 515 university freshmen male students (18-24 years) who were enrolled in the First Year Experience program received an email from the student researcher explaining the purpose of the scholarly project and asking them to voluntarily participate in a short research study by completing a brief, pre-educational intervention survey. Upon completion of the survey, participants were asked to enroll in the Chlamydia Awareness Project course via an online course platform. One month after completion of the initial pre-intervention survey, participants were prompted through email and through the Chlamydia Awareness Project course to complete a post-educational intervention survey. Prospective study participants received one email invitation and two email reminders that were spaced two days apart.

The educational content in the Chlamydia Awareness Project was obtained from the Centers for Disease Control and Prevention (2017) and from the U.S. Preventive Services Task Force (2014) guidelines for chlamydia screening and prevention. Information about chlamydia infection, testing, treatment, and local resources were provided within a series of modules. Humorous, cartoon-type images were identified by the student researcher using an online search engine query that was entitled, “chlamydia awareness”.

The course included an announcements section and five educational modules. The introductory module consisted of an introduction, purpose of the research study, and a description of the study procedures, including survey methods. The second module was entitled Chlamydia Infection. This module included content and web-links obtained from the CDC (2017) website and a short overview about chlamydia infection, including an identification of long-term complications that may occur as a result of untreated infection. Emphasis was provided in regard to the fact that the infection is often asymptomatic (Goundry et al., 2013). In the third module, entitled Chlamydia Risk in the College Population, CDC (2017) surveillance data and information from other evidence-based sources were used to provide evidence that the college students are at an increased risk for acquiring chlamydia infection (McCave et al., 2012; Rutledge et al., 2011).

In the fourth module, Chlamydia Testing and Treatment, information about non-invasive diagnostic testing methods was provided by showing participants an illustration of a urine specimen cup which is used to obtain a small amount of urine for NAAT testing. The fourth module also provided current treatment recommendations from the CDC (2017). Participants were informed that a single dose of Azithromycin cures the infection. The fifth module was entitled Local Area Testing Facilities. This module included electronic hyperlinks to local health care facilities where students could receive additional STI resources, education, diagnostic testing, and treatment if needed. All of the modules were piloted by three graduate nursing students and it was expected that study participants would be able to review and complete the modules in less than five minutes.

Measures

Anonymous demographic data were collected from two items on the pre-educational intervention survey. Participants were asked to answer demographic questions about age and race. Chlamydia knowledge and intention-to-test were measured using a modified version of the Sex, Drugs, and Rock'n'Roll Questionnaire developed by Lim et al. (2012) that measured the following: (a) favorite type of music, (b) sexual history, (c) condom use, (d) STI knowledge, (e) STD screening history, (f) STI history, (g) alcohol use, and (h) drug use (Appendix E). Permission to use three of the survey items related to chlamydia knowledge was obtained from Dr. Margaret Hellard (Appendix D). The pre and post-intervention survey that was used in this project was modified from the Sex, Drugs and Rock'n'Roll Questionnaire (Lim et al., 2012) in the following ways: (a) all survey items were removed except for the survey items *"People infected with chlamydia often don't have symptoms and won't know they have the infection"*, *"Chlamydia can be diagnosed by a urine test", and "Chlamydia can make women infertile (unable to get pregnant)"*; (b) survey item *"Chlamydia can make women infertile (unable to get pregnant)"* was changed to *"Chlamydia can cause infertility"*; (c) survey item *"College students are at a higher risk for chlamydia infection than the general population"*, was added to the survey; (d) survey item *"Do you intend to be tested for chlamydia?"* was added to the survey; (e) all response options related to chlamydia knowledge in the modified survey were changed from *"True"*, *"False"*, or *"Don't Know"* to Likert scale response options ranging from 1 (*definitely yes*) to 5 (*definitely not*); (f) additional demographic items for age and race were added to the modified survey. In summary, the pre and post-intervention survey included the following questions: (a) *"People infected with chlamydia often don't have symptoms and won't know they have the infection"*, (b) *"College students are at a higher risk for chlamydia infection than the*

general population", (c) *"Chlamydia can cause infertility"*, (d) *"Chlamydia can be diagnosed by a urine test"*, and (e) *"Do you intend to be tested for chlamydia?"*. The original and modified versions of the survey have not been tested for reliability or validity.

Design and Data Analysis

Demographic participant characteristics were analyzed using descriptive statistics such as means, standard deviations, and percentages. A quasi experimental, single-group pre- and post-test design using a Wilcoxon signed rank test compared participant scores on the surveys prior to and after the online educational intervention. Survey data were uploaded into encrypted, password-protected Microsoft Excel spreadsheets and imported to SPSS V25 for analysis. All research materials and data were kept in a locked file cabinet in the scholarly project faculty chair's office and will be destroyed after seven years. Results of the data analysis are presented in Chapter 4.

Chapter Four

Results

This chapter includes a description of the demographic characteristics of the study participants, descriptive statistics, and Wilcoxon signed rank test results. The results were analyzed to determine whether there were significant differences in intention to test before and after participation in an online educational course entitled, Chlamydia Awareness Project. Other factors that were examined included level of knowledge about risk factors for chlamydia infection, chlamydia symptoms, and screening methods. The results section is followed by a discussion of the implications of the findings for nursing clinical practice, strengths and limitations of the scholarly project, and recommendations for future research.

Demographic Data

Using SPSS (Version 25) software for analysis, pre-educational intervention data were collected from 59 freshmen males enrolled in the First Year Experience Program and post-educational intervention data were collected from 17 freshmen males. Forty-two participants did not complete the post-educational intervention survey. The ages of participants on the pre-educational intervention survey ranged from 18 to 20 years old (M = 18.22, SD = 0.457) and from 18 to 19 years old (M =18.29, SD = 0.47) on the post-educational intervention survey. Fifty-nine participants completing the pre-intervention survey were White, less than 10 were Black, less than 10 were Hispanic, less than 10 were Native American, and less than 10 were Pacific Islanders. All 17 respondents who completed the post-educational intervention survey were White.

Descriptive Statistics

Table 1 displays the frequency of scores for each survey item from the pre-educational intervention group. The survey items are as follows: “People infected with chlamydia often don’t have symptoms and won’t know they have the infection”, “College students are at a higher risk for chlamydia infection than the general population”, “Chlamydia can cause infertility”, “Chlamydia can be diagnosed by a urine test”, and “Do you intend to be tested for chlamydia”. Items for each subscale were scored using a 5-point Likert scale with response options ranging from 1 (*definitely yes*) to 5 (*definitely not*). Optimal responses were 1 (*definitely yes*). As reported in Table 1, the majority of respondents showed modest baseline knowledge regarding chlamydia awareness. When asked about the asymptomatic nature of chlamydia, 49% (n = 29) of participants provided *definitely yes* and *probably yes* responses and 57% (n = 34) of participants reported, *definitely yes* or *probably yes* that untreated chlamydia puts one at risk for infertility. When asked whether the college age population is at a higher risk for contracting chlamydia, 84% (n = 49) reported *definitely yes* or *probably yes*. When asked whether chlamydia could be tested using a urine sample, 54% (n = 32) reported *definitely yes* or *probably yes*. In regard to intention to test, 19% (n = 11) reported they would *definitely not* or *probably not* receive testing for chlamydia.

Table 1

Frequency of Responses for each Likert Survey Item on the Pre-Educational Survey

Survey Item	Definitely yes	Probably yes	Might or Might not	Probably not	Definitely not	Total
Asymptomatic nature	8	21	19	11	0	59
Infertility risk	10	24	15	7	3	59
College aged risk	21	28	6	3	1	59
Urine screening	9	23	21	4	2	59
Intention to test	5	6	9	20	19	59

Table 2 displays the frequency of scores for each survey item from the post-educational intervention group. The survey items were the same as those on the pre-educational intervention survey. As the frequency table shows, the majority of survey respondents showed increased knowledge regarding chlamydia awareness in comparison to the pre-educational intervention group. When asked about the asymptomatic nature of chlamydia, 76% (n = 13) of participants provided *definitely yes* and *probably yes* responses and 88% (n = 15) of participants reported, *definitely yes* or *probably yes* that untreated chlamydia puts one at risk for infertility. When asked whether the college age population is at a higher risk for contracting chlamydia, 94% (n = 16) reported *definitely yes* or *probably yes*. When asked whether chlamydia could be tested using a urine sample, 94% (n = 16) reported *definitely yes* or *probably yes*. In regard to intention to test, 35% (n = 6) reported they would *definitely not* or *probably not* receive testing for chlamydia. In comparison to the pre-educational intervention group, this group demonstrated an increase in intention to get tested for chlamydia. The post-educational intervention group also showed a larger percentage of respondents who *definitely did not* intend to test for chlamydia

(41% [n = 7]) in comparison to those in the pre-educational intervention group who reported they would *definitely not* intend to be tested for chlamydia (32% [n = 19]).

Table 2

Frequency of Responses for each Likert Survey Item on the Post-Educational Survey

Survey Item	Definitely yes	Probably yes	Might or Might not	Probably not	Definitely not	Total
Asymptomatic nature	4	9	1	2	1	17
Infertility risk	6	9	1	0	1	17
College aged risk	12	4	0	0	1	17
Urine screening	9	7	0	0	1	17
Intention to test	1	5	2	2	7	17

Inferential Statistics

A Wilcoxon signed ranks test was used to compare individual survey items from the pre-educational intervention survey to the items on the post-educational intervention survey. See Table 3 for the results. When asked if participants intended to receive testing for chlamydia infection, study participants provided a pre-educational survey median score of 4 and a post-educational survey median score of 4. Results from a Wilcoxon signed rank test indicated that there were not statistically significant differences in participants' intention to test for chlamydia after the educational intervention (*Mdn* = 4), Z = -.221, p =.825, r = -.054. When queried about the often asymptomatic nature of chlamydia infection, study participants provided a pre-educational intervention survey median score of 3 and a post-educational intervention median score of 2. Results from the Wilcoxon signed rank test determined that there were no statistically significant differences in knowledge level in reference to the asymptomatic nature of chlamydia after the educational intervention (*Mdn* = 2), Z = -1.348, p =.178, r = -.327. When

asked about their knowledge about the risk of infertility with untreated chlamydia infection, study participants provided a pre-educational survey median score of 2 and post-educational survey median score of 2. Results from the Wilcoxon signed rank test determine that there were not statistically significant differences in knowledge about risks of infertility with untreated chlamydia infection after the educational intervention (*Mdn* = 2), *Z* = -1.842, *p* =.071, *r* = -.447. When asked about their knowledge of increased risk factors for chlamydia infection in the college aged population, study participants provided a pre-educational intervention survey median score of 2 and post-educational intervention survey median score of 1. Results from the Wilcoxon signed rank test determine that there were no statistically significant differences in knowledge about increased risk factors for chlamydia infection after the educational intervention (*Mdn* = 1), *Z* = -1.805, *p* =.066, *r* = -.437. When asked about their knowledge about non-invasive, urine-based screening methods, the study participants provided a pre-educational survey median score of 2 and a post-educational survey median score of 1, falling into the Likert category of 1. Results from the Wilcoxon signed rank test determine that there were statistically significant differences in regard to non-invasive screening methods that occurred after the intervention (*Mdn* = 1), *Z* = -2.027, *p* =.043, *r* = -.491. This change in median score from 2 (*probably yes*) in the pre-educational intervention group to 1 (*definitely yes*) in the post-educational intervention group showed a positive impact in knowledge gained in this category after the educational intervention.

Table 3

Median Survey Scores and Wilcoxon Signed Rank Test Results for the Pre- and Post-Educational Intervention Surveys

	Mdn	*Z*	*p*	*r*
Asymptomatic nature	2	-1.348	.178	-.327
Infertility	2	-1.842	.071	-.447
College age risk	1	-1.805	.066	-.437
Urine screening test	1	-2.027	.043	-.491
Intention to test	4	-.221	.825	-.054

Discussion

The purpose of this DNP scholarly project was to identify whether the implementation of a Moodle-based Chlamydia Awareness Project course increased intention to test for chlamydia in a convenience sample of first-semester freshmen males at a Midwestern university. In addition, chlamydia knowledge was assessed before and after participation in the online course in relation to risk factors for chlamydia infection, chlamydia symptoms, and screening methods. Findings from this project did not demonstrate statistically significant differences in respect to intention to test for chlamydia, risk factors, or symptoms. However, there were statistically significant differences in participants' knowledge about non-invasive urine based testing (p = .043). In addition, all mean Likert scores for each survey item decreased after the educational intervention which suggests that there might have been a modest increase in awareness and knowledge about chlamydia infection. However, the results of this project cannot be generalized due to a low number of post-educational intervention survey responses and lack of a reliable and valid survey tool.

Data from this scholarly project provides support for the findings of other researchers which suggested that online sexual health information can increase sexual health knowledge in college students (Evers, Albury, Byron, & Crawford, 2013; Lim et al., 2012; Richman et al., 2014). In this study, all mean Likert scores for each survey item decreased after the educational intervention which suggests that there was an increase in awareness and knowledge about chlamydia infection. Results from this project also provide support for Goundry et al's (2013) research which proposed that in the college-aged population, there is a lack of knowledge about the asymptomatic nature of chlamydia infection. In this study, less than half (49%) of participants reported that they understood about the asymptomatic nature of chlamydia at baseline. Results from this study also provide partial support for Chaudhary et al. (2008) and Shoveller et al.'s (2009) research which found that men lack knowledge about urine based screening methods. In this study, when asked whether chlamydia could be tested using a urine sample at baseline, 54% (n = 32) reported *definitely yes* or *probably yes* which suggests that just under half of the participants were unaware about non-invasive screening methods at baseline.

Implications for Advanced Practice Nursing

The results of this scholarly project provide some support for the idea that a brief, online educational intervention increases knowledge about non-invasive screening methods for chlamydia infection in college freshmen males. These findings are important because this population is at increased risk for sexually transmitted infections and lack clear screening guidelines (Balfe et al., 2012; Hood & Friedman, 2011). APRN's have long held a role as patient advocate and educator and it may be helpful to provide sexual health education to at-risk populations (Vail-Smith et al., 2010). Through coordinated sexual health promotion campaigns,

these patients may gain a better understanding of their risk factors for sexually transmitted diseases which can help to improve health outcomes (McCave et al., 2012).

Strengths and Limitations

This DNP scholarly project had several strengths and limitations. The use of a quasi-experimental design was a strength. Key stakeholders participated during the implementation of the project and there was input from the office of the Academic Provost, Registrar and the Center for Teaching and Learning. Limitations include the sample being homogenous in respect to demographic characteristics, which decreases external validity. Response rates to the initial email were low, so two reminders were sent out to all participants who had not responded to the original email. A further limitation was identified in relation to the loss of study participants from the first survey to the second with only 17 post-educational intervention surveys completed. These numbers fell short of the sample size of 220 that was calculated for the project. With such a low response rate, the Wilcoxon signed rank test results may not have reached significance due to a lack of power. The use of non-probability convenience sampling is weak in comparison to probability-type sampling techniques in which participants are randomly selected from the population. The survey questions were not tested for reliability or validity.

Recommendations for Future Research

As the rate of chlamydia infection continues to rise, innovative and novel approaches will be needed to provide sexual health awareness programs that are easily accessible through online, mobile, or other technological platforms that are utilized by young adults. Based on the results of this DNP scholarly project, future research on this topic should include replication studies with larger sample sizes, experimental study designs, and more diverse samples to increase generalizability. In addition, the use of valid and reliable tools for data collection are essential.

Conclusion

The purpose of this DNP scholarly project was to identify whether the implementation of a Moodle-based Chlamydia Awareness course increased intention to test for chlamydia in a convenience sample of first semester freshmen males at a Midwestern university. Findings from this project did not demonstrate statistically significant differences in respect to intention to test for chlamydia, knowledge of risk factors, or symptoms. However, there were statistically significant differences in participants' knowledge about non-invasive urine based testing. Limitations included a small sample size and lack of a reliable and valid tool which limits the ability to generalize these findings to the population. This DNP scholarly project provided a practical approach for using a Moodle-based learning management software as a targeted public health campaign to improve sexual health knowledge of college freshmen males.

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Appendix A

Institutional Review Board Approval

Memorandum

TO: Adam Burri
Nursing Department

CC: Melissa Romero
Nursing Department

FROM: Dr. Robert Winn
Interim Dean of Arts and Sciences/IRB Administrator

DATE: April 14, 2017

SUBJECT: IRB Proposal HS17-853
"Moodle Based Chlamydia Awareness Project to Increase Intention to Test in College Freshman Men: A DNP Scholarly Project"
IRB Approval Dates: 4/14/2017 - 4/14/2018
Proposed Project Dates: 9/1/2017 - 10/5/2017

Your proposal "Moodle Based Chlamydia Awareness Project to Increase Intention to Test in College Freshman Men: A DNP Scholarly Project" has been approved under the administrative review process. Please include your proposal number (HS17-853) on all research materials and on any correspondence regarding this project.

Any changes or revisions to your approved research plan must be approved by the Institutional Review Board (IRB) prior to implementation.

If you do not complete your project within 12 months from the date of your approval notification, you must submit a Project Renewal Form for Research Involving Human Subjects. You may apply for a one-year project renewal up to four times.

All forms can be found at the NMU Grants and Research website: http://www.nmu.edu/grantsandresearch/node/102

Appendix B

Chlamydia Awareness Survey

Chlamydia Awareness Project |

Q1 How old are you?

- 18 (1)
- 19 (2)
- 20 (3)
- 21 and older (4)

Q2 What is your race?

- White/Caucasian (1)
- African American (2)
- Hispanic (3)
- Asian (4)
- Native American (5)
- Pacific Islander (6)

Q3 People infected with chlamydia often don't have symptoms and won't know they have the infection

- Definitely yes (1)
- Probably yes (2)
- Might or might not (3)
- Probably not (4)
- Definitely not (5)

Q4 College students are at a higher risk for chlamydia infection than the general population

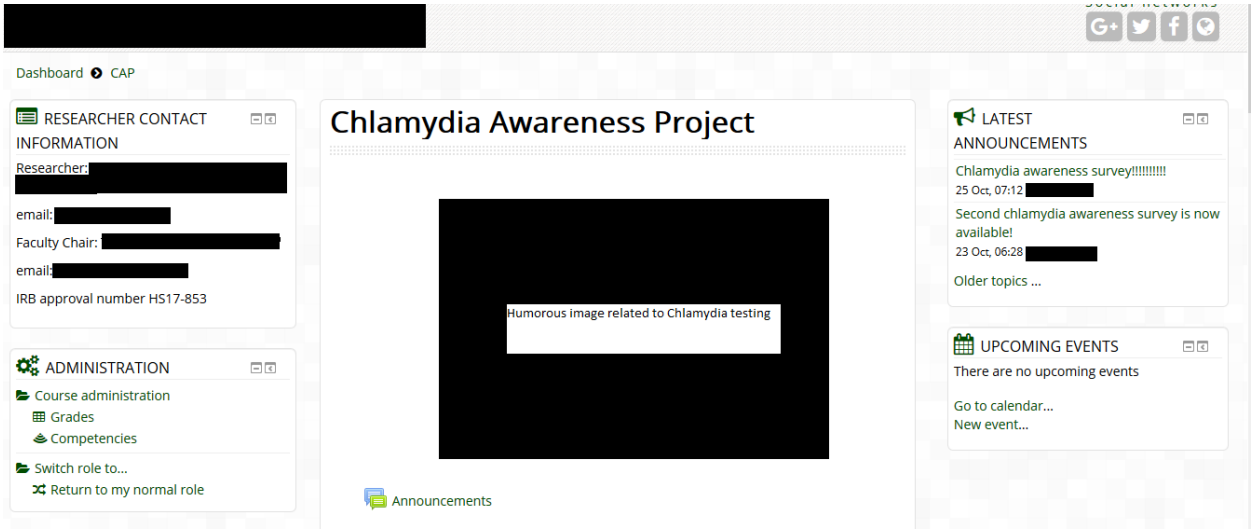
Q5 Chlamydia can cause infertility

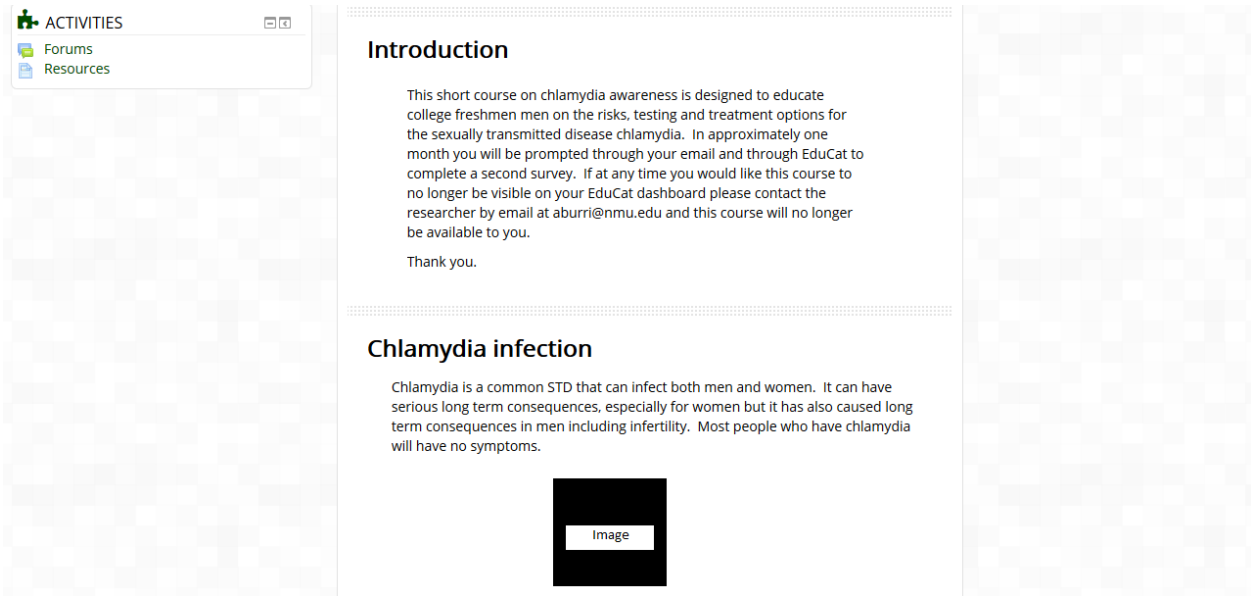
Q6 Chlamydia can be diagnosed by a urine test

Q7 Do you intend to be tested for Chlamydia

Appendix C

Educational Modules



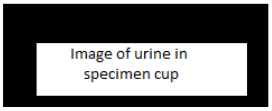


Chlamydia Risk in the College Population

In 2015, there were 1,526,658 cases of chlamydia reported in the United States. The college age population is at a higher risk for chlamydia infection than the general population. Some estimates found that 1 in 10 college students are infected, and in some areas of the country 1 in 5 college students are infected.

Chlamydia Testing and Treatment

For men, chlamydia testing is most often done by providing a small amount of urine. Treatment often consists of a single dose of an antibiotic, which cures the infection.



Local Area Chlamydia Testing Facilities

For more information about chlamydia, your risk and testing and treatment options in your area please use the following links below.

[redacted]

Planned Parenthood

[redacted]

[redacted]Family Medicine

Appendix D

Email correspondence between Adam Burri and Dr. Margaret Hellard

Dear Dr. Hellard,

...

Would you be wiling to provide me with permission to use the three questions regarding chlamydia knowledge in your questionnaire? Specifically I would like permission to use "Chlamydia can be diagnosed by a simple urine test", "People infected with chlamydia often don't have symptoms and won't know they have the infection", and "Chlamydia can make women infertile". Thank you again for the response.
Kind regards,
Adam Burri

Dear Adam.
Sorry I have been travelling for work.
Yes – I am happy for you to have permission to use questions from our study in your work.
It would be great if you could put an acknowledgement somewhere as to that if possible.
Good luck with the work.
Margaret

Appendix E

Sex, Drugs and Rock'n'Roll Questionnaire by Lim, M. S. C., Hocking, J. S., Aitken, C. K., Fairley, C. K., Jordan, L., Lewis, J. A., & Hellard, M. E. (2012)

Thank you for taking the time to complete this questionnaire. Please read the questions carefully and **answer as truthfully as possible** by ticking the appropriate boxes or writing your answers in the spaces provided. Your responses are confidential - **do NOT write your name** or any other identifying information anywhere on this questionnaire.

DEMOGRAPHICS

1. What is your date of birth? DD/MM/YYYY ___/___/_____

2. Are you? ☐ Male ☐ Female

3. Your postcode: _____

4. What country were you born in?

☐ Australia ☐ Other, *specify* _____

5. What language do your parents usually speak at home?

☐ English ☐ Other, *specify* _____

6. What is the highest level of education that you have completed?

☐ Still studying: high school ☐ Still studying: tertiary ☐ Did not complete high school

☐ Completed high school ☐ TAFE, Diploma or Certificate ☐ Bachelor Degree or higher

28. In the past 12 months, how often have you visited a GP for your own health for any reason?

☐ Once ☐ Twice ☐ Three times ☐ Four or more times ☐ Haven't visited GP for own health in past 12 months

ROCK'N'ROLL

7. What is your favourite type of music? *(tick one)* ☐ RNB/hip hop ☐ Dance/techno ☐ House ☐ Alternative ☐ Metal

☐ Pop ☐ Rap ☐ Retro ☐ Classical ☐ Country ☐ Other *specify* _____

8. Of the bands playing today, which is your favourite? _____

SEX

11. Have you ever done these things…	Yes, with a male	Yes, with a female	No, never
Deep kissing	☐	☐	☐
Touching genitals with hands	☐	☐	☐
Oral sex	☐	☐	☐
Vaginal sex	☐	☐	☐
Anal sex	☐	☐	☐

The following questions about sex refer to vaginal intercourse (penis in vagina) or anal intercourse (penis in anus) only.

12. How many people have you ever had sexual intercourse with? Male _____ Female _____

If 0 skip to question 20

16. How old were you when you first had sexual intercourse? _____years

13. In the past year how many people have you had sexual intercourse with who were…?

Regular partners _____ Casual partners _____ *If 0 skip to question 16*

How many of these were new partners *(i.e. you had never had sex with them before this year)*? _____

15. In the past year did you use a condom with…?

Regular partners	☐ All of the time	☐ Most of the time	☐ Some of the time	☐ Never	☐ Don't know	☐ N/A
Casual partners	☐ All of the time	☐ Most of the time	☐ Some of the time	☐ Never	☐ Don't know	☐ N/A
New partners	☐ All of the time	☐ Most of the time	☐ Some of the time	☐ Never	☐ Don't know	☐ N/A

16. In the past year when using a condom, how often was the condom put on after the penis was first inserted in the vagina or anus?

☐ Never ☐ Once or twice ☐ A few times ☐ Often ☐ Don't know ☐ Didn't use condom in past 12 months

17. In the past year have you had sex with a person or in a situation when you usually wouldn't have because you were too drunk or high at the time? ☐ Never ☐ Once or twice ☐ A few times ☐ Often ☐ Don't know

18. In the past year have you ever not used a condom when you usually would because you were too drunk or high at the time?
☐ Never ☐ Once or twice ☐ A few times ☐ Often ☐ Don't know

14. In the past three months, how many people have you had sexual intercourse with who were…?

Regular partners _____ Casual partners _____ *If 0 skip to question 16*

How many of these were new partners? *(i.e. you had never had sex with them before this time)*?_____

15. In the past three months did you use a condom with…?

Regular partners	☐ All of the time	☐ Most of the time	☐ Some of the time	☐ Never	☐ Don't know	☐ N/A
Casual partners	☐ All of the time	☐ Most of the time	☐ Some of the time	☐ Never	☐ Don't know	☐ N/A
New partners	☐ All of the time	☐ Most of the time	☐ Some of the time	☐ Never	☐ Don't know	☐ N/A

19. Thinking back to the last (most recent) time that you had sex without a condom, what was the reason?

Tick all that apply and circle the reason most important to you

☐ Not applicable; I always use condoms
☐ Heat of the moment
☐ Sex doesn't feel as good
☐ None easily available
☐ I trust my partner
☐ I was too drunk/high
☐ Just forgot
☐ I didn't want to

☐ My partner didn't mention it

☐ Didn't know how/where to get one
☐ I don't like condoms
☐ My partner doesn't like them
☐ Use other contraception *Specify*_____
☐ Other reason *Specify*_____
☐ Don't remember/don't know

24. How likely do you think it is that you personally could catch the following diseases?

a. Chlamydia	☐ Never heard of it	☐ Very likely	☐ Likely	☐ Unlikely	☐ Very unlikely
b. Gonorrhoea	☐ Never heard of it	☐ Very likely	☐ Likely	☐ Unlikely	☐ Very unlikely

c. Herpes	☐ Never heard of it	☐ Very likely	☐ Likely	☐ Unlikely	☐ Very unlikely
d. HIV	☐ Never heard of it	☐ Very likely	☐ Likely	☐ Unlikely	☐ Very unlikely
e. Hepatitis C	☐ Never heard of it	☐ Very likely	☐ Likely	☐ Unlikely	☐ Very unlikely

26. *These questions are to test your knowledge of STDs, for each statement tick true, false or don't know*	True	False	Don't know
i. Chlamydia can be diagnosed by a simple urine test	☐	☐	☐
ii. People infected with Chlamydia often don't have any symptoms and won't know they have the infection	☐	☐	☐
iii. You can get Hepatitis C from sharing food/drinks with an infected person	☐	☐	☐
iv. HIV is much less common in Australia now than it was 10 years ago	☐	☐	☐
v. Gonorrhoea, syphilis and Chlamydia can all be easily treated with antibiotics	☐	☐	☐
vi. There is a vaccine for both hepatitis B and C	☐	☐	☐
vii. Accidentally pricking yourself with a dirty syringe is one of the most common ways of getting HIV in Australia	☐	☐	☐
viii. Chlamydia can make women infertile (unable to become pregnant)	☐	☐	☐
ix. You will know for sure if your partner has herpes because they will always have ulcers on their genitals	☐	☐	☐
x. A person with HIV may look and feel completely healthy and still transmit the virus	☐	☐	☐

30. How would you feel about having a yearly STD checkup with your doctor or GP?

☐ No problem ☐ Would probably be OK ☐ Would probably not be OK ☐ No way

☐ Don't need to but would be OK if I did ☐ Don't need to and I wouldn't do it anyway ☐ I don't know

20. In the last 2 years have you…?

a. Thought you might have a sexually transmissible disease (STD)? ☐ Yes ☐ No

b. Had symptoms you thought were an STD? ☐ Yes ☐ No

When did you last…

a. Have a pap smear?

☐ Less than 6 months ago ☐ 6 months to 2 years ago ☐ More than 2 years ago ☐ Never had one

b. Have a HIV test?

☐ Less than 6 months ago ☐ 6 months to 2 years ago ☐ More than 2 years ago ☐ Never had one

c. Have a test for another STD?

☐ Less than 6 months ago ☐ 6 months to 2 years ago ☐ More than 2 years ago ☐ Never had one (go to question x)

x. What was tested? ☐ Blood ☐ Urine ☐ Swab from genitals/anus ☐ Discharge ☐ Don't know

x. Why did you have your last STD test? *Tick one*

☐ I had symptoms

☐ My doctor suggested it

☐ My partner was infected

☐ I thought I might be at risk

☐ Routine STD screen

☐ I had a new partner

☐ I saw ads/posters about STDs

☐ Other reason *specify*_____

c. Have you ever been diagnosed with an STD by a health professional? ☐ Yes ☐ No

d. *If yes,* which infection(s) were you diagnosed with?

☐Chlamydia ☐Gonorrhoea ☐Syphilis ☐HIV ☐HPV (genital warts) ☐Herpes ☐Pubic Lice ☐Hepatitis B

☐Other *specify* _____ ☐Don't know/Can't remember

x. Have you ever had sex that resulted in an <u>unplanned</u> pregnancy?

☐ Yes, once ☐ Yes, more than once ☐ No ☐ Don't know

If yes, how old were you? _____

<u>ALCOHOL AND DRUGS</u>

34. How old were you when you <u>first</u> drank alcohol (away from parental supervision)? _____years

☐ Have never drunk alcohol (*skip to question 38)*

35. How often have you consumed alcohol in the past 12 months?

☐ Every day ☐ At least once a week ☐ At least once a month ☐ Less than once a month

☐ Used to drink, but haven't in past 12 months (*skip to question 38)*

36. *For this question a standard drink is e.g. one glass beer, one scotch and coke, a small glass of wine*

Sheilas answer this

How often, over the past 12 months, have you consumed **5 or more** standard drinks in the same day?

☐ Every day ☐ At least once a week

☐ At least once a month ☐ Less than once a month

☐ Not at all in past 12 months

Blokes answer this

How often, over the past 12 months, have you consumed **7 or more** standard drinks in the same day?

☐ Every day ☐ At least once a week

☐ At least once a month ☐ Less than once a month

☐ Not at all in past 12 months

38. Which illicit drugs have you ever used? *(tick all that apply)*

☐ Never used drugs *(skip to questions 41)* ☐ Cocaine ☐ Ecstasy/MDMA/E

☐ Inhalants/chroming/glue ☐ Steroids (non-medical use) ☐ Heroin ☐ Speed/Ice/Other amphetamines

☐ Marijuana/Cannabis/Pot ☐ Acid/LSD/Trips/Mushrooms ☐ Other drug *specify* _____

x. How old were you when you first used an illicit drug? ____years

39. Which drugs have you used in the past year? *(tick all that apply)*

☐ Haven't used drugs in past month ☐ Cocaine ☐ Ecstasy/MDMA/E

☐ Inhalants/chroming/glue ☐ Steroids (non-medical use) ☐ Heroin ☐ Speed/Ice/Other amphetamines

☐ Marijuana/Cannabis/Pot ☐ Acid/LSD/Trips/Mushrooms ☐ Other drug *specify* _____

40. Over the past year, how often have you used illicit drugs?

☐ Every day ☐ At least once a week ☐ At least once a month ☐ Less than once a month ☐ Don't use anymore

x. Have you ever had any problems because of your drug use?

Often A few times Once or Twice Never

Legal	☐	☐	☐	☐
Financial	☐	☐	☐	☐
Family	☐	☐	☐	☐
Relationship	☐	☐	☐	☐
Friends	☐	☐	☐	☐
Work/Study	☐	☐	☐	☐
Health	☐	☐	☐	☐

41. Have you ever injected drugs? ☐ Yes ☐ No *(skip to question 41)*

a. Which drugs have you injected? _____

b. At what age did you first inject? _____ years

c. How often do you currently inject drugs?

☐ Every day ☐ At least once a week ☐ At least once a month ☐ Less than once a month ☐ Don't inject anymore

AND FINALLY…

Did you do the Sex, Drugs and Rock'n'roll questionnaire at the Big Day Out last year? ☐ Yes ☐ No

Thank you and enjoy your big day out!!