Sexual Health Education and STI Screening Provider Protocol in the Retail Health Clinic

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Table of Contents

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Abstract

Although STI screenings are available to patients, this type of screening is not always requested or discussed at routine office visits. The use of retail clinics to screen for STIs may be a strategy to increase the number of STI screenings and treatment that are conducted. The Sexual Health Protocol (SHP) and educational intervention would be implemented in hopes to increase provider competency and confidence to better understand detection times of STIs, implement the SHP, and recommend STI screenings to patients. Expanding the nurse's role to include the promotion of providing educational resources, disease risks, STI awareness, and STI screenings at clinic visits may help to improve patient outcomes. The use of the health promotion model gives the healthcare provider an opportunity to incorporate the SHP into relevant clinic visits with the goal of improving patient outcomes through health awareness. In addition the results of the project showed that such interventions may increase the provider's confidence and ability to fully assess a patient's sexual health. The findings indicated that the confidence questions and knowledge questions all showed improvements in the post questionnaires.

Introduction

There are nearly 20 million new sexually transmitted infections every year in the United States. This accounts for almost 16 billion in health care costs (Centers for Disease Control [CDC], 2015). In 2012, there were an estimated 357 million new global cases of STIs (WHO, 2016). These numbers do not include undiagnosed and unreported STIs, as some STIs are not mandated to be reported. It is common to have problems with poor data quality and delays in submission reports to public health agencies (Revere, et al., 2017). Although STI screenings are available to patients, they are not always requested or discussed at routine office visits, with less than 40% of medical providers conducting sexual histories with patients (Lanier, et al., 2014). According to Hoover, et al. (2015), "Untreated STDs can result in serious sequelae, including infertility, ectopic pregnancy, and increased risk for transmission of and acquiring HIV" (p.1).

Background

The U.S. Preventive Services Task Force and the CDC both recommend routine sexual health discussions between patients and medical providers. This is a proactive method for increasing routine HIV and STI testing during medical visits (U.S. Preventive Services Task Force, 2017; CDC, 2011). Inclusion of a discussion on sexual health and behaviors in a non-judgmental manner gives the opportunity for providers to educate patients and provide the opportunity to take part in preventative screenings. This allows for multiple sexual health issues and referrals to be addressed at the same time during a patient's visit, leading to a more comprehensive care of patients (Ford, et al., 2013).

Significance

Multiple factors have been shown that correlate low screening rates to lack of access, concerns about confidentiality, waiting times, and social consequences of a positive result

(Skala, Secura, & Peipert, 2012). It is important to understand what motivates a patient to seek care for STIs. This will provide stakeholders with information needed to consider what role they can take as a component of the public health safety net (Hoover, et al., 2015). The use of retail clinics to screen for STIs can help increase STI screenings and treatment. Retail clinics are convenient medical offices open to walk-in patients and scheduled appointments. They provide acute and chronic care management along with medical screenings. "Benefits from improving STI control and reducing STI rates by 90% according to the Strategy's target for 2030 will further include health care savings from STI episodes averted that incur economic productivity losses, morbidity and mortality due to infertility, pregnancy and congenital complications and psychosocial impacts" (Korenromp, Wi, Resch, Stover, Broutet, 2017, p.1).

Problem Statement

Due to high rates of STIs in the US and globally, the goal for this project would be to increase the confidence and competency of the medical provider to know detection times of STIs, implement the SHP, and recommend STI screenings to the patient. This can be accomplished through the development of a sexual health protocol (SHP) into practice guidelines at the retail clinic level of care. During every visit that relates to a G/U issue and/or birth control visit, providers would follow the SHP and provide a recommendation for STI screenings. Currently, it is not the standard of care for providers to discuss sexual health education and suggest STI screenings with patient medical visits that do not indicate a potential STI.

Retail clinics can be utilized as a venue to help screen and prevent against STIs. Easily accessible informative visits about sexual health can help educate patients while dually recommending STI screenings. Research shows that STI treatment and counseling promotes safer sexual behaviors in those who test positive for an STI in addition to curing disease

(Sznitman, et al., 2012). This allows for a "teachable moment" where counseling can be directed towards sexual risk behaviors (Sznitman, et al., 2012). The SHP can be implemented as a proactive strategy to prevent and control STIs. Retail clinics are now available nationwide and are accessible for walk-in or appointment set visits. Since 2000, retail clinics have grew from 300 locations in 2007 to now more than 1,450 locations, estimating nearly 6 million visits annually (Dugdale, et al., 2015). Retail clinics utilize nurse practitioners and physician assistants to address the amount of clinical demand (Dugdale, et al., 2015).

Purpose Statement

The SHP and educational intervention would be implemented in hopes to increase provider competency and confidence to better understand detection times of STIs, implement the SHP, and recommend STI screenings to patients. Educational sexual health prevention and STI screenings help to promote public health and education of the community. Successful intervention begins with the purpose and goal to improve patient's overall health and STI status awareness. The U.S. Preventive Services Task Force (USPSTF) recommends HIV screening in adults and adolescents ages 15-65 (Barclay, 2013). This would increase disease awareness, increase STI screenings, and reduce health care costs related to progression of disease. During urinary tract infection visits and contraception visits, it is not currently required protocol to ask about past STI screenings or in-depth sexual health questions. Although these guidelines provide clinical guidance, past STI screenings are not always addressed and therefore further development is needed to standardize evidence based practice.

Project Objectives

- Create a SHP for providers to follow that includes recommendations for STI screenings during G/U and/or birth control clinic visits at the retail medical clinic within the next four months.
- Develop SHP training for providers that promotes STI screenings to patients being seen for G/U and/or birth control visits in the retail clinic setting in four to six weeks.
- Evaluate the changes in confidence and competency of the medical provider to know the detection time of STIs and evaluate the sexual health history and STI screening history of a patient one month after SHP implementation.

The Project Question

Will implementation of the SHP for providers to use during G/U and contraceptive care visits increase the confidence and competency of the medical provider to know STI detection times and recommend STI screenings?

Search Terms

The host organization's intranet was utilized to examine current policies and procedures related to current practice at the project site. The guidelines folder on the intranet was searched to locate guidelines related to STIs, UTIs, and contraception due to the aim of this project. The current policies were found under guideline inventory: sexually transmitted infections, contraceptive care, and urinary tract infection.

Research was limited to studies within the last six years. Studies dated older than 6 years were excluded from the search criteria. Databases used include: National Center for Biotechnology Information (NCBI), PubMed Central (PMC), and the US National Library of Medicine and National Institutes of Health (NLM/NIH). Search terms used to obtain relevant

studies to the project include: STI screenings, STI provider protocol, chlamydia screenings, medical screenings for STIs, STI screenings, and HIV screenings. Over 2,000 search results returned. Out of the 2,000 search results populated with these search terms the vast amount of studies were then reviewed and narrowed down as to relevance to the SHP protocol. Studies that were more adolescent focused were excluded as the protocol is based on participants 18 years of age and older. Only studies that were published in the last six years were used to provide a more up-to-date review of literature. The primary studies used were relevant to the clinic setting the protocol would be implemented into. These requirements narrowed the search down further to the studies reviewed in this section.

Review of Literature

Studies surrounding implementation of various interventions for STI screenings and STI prevention were reviewed, including those that discuss training of medical providers related to implementing STI screenings into medical exam visits. Ten studies were examined and used as a basis for this DNP practicum project. These inquiries were utilized as evidence in implementation of this protocol to see what was found to be an important part of assisting patients to get STI screenings. These academic works functioned as a review of up-to-date knowledge and accurate results surrounding STI screenings and the provider's role.

Impact of the Problem

Silent infections that are asymptomatic, such as chlamydia and gonorrhea, may be left untreated if not medically screened (Skala, et al., 2012). These untreated infections can cause damage to the fallopian tubes or uterus and also lead to pelvic inflammatory disease (PID). This can cause infertility, chronic pelvic pain, and ectopic pregnancies (Skala, et al., 2012). STIs can linger for months to years untreated and undetected if a person is asymptomatic, which can lead

to spreading of the infections to others and possible irreversible damage to the reproductive organs. Sexually transmitted infection status is important to the population to help prevent the continued passing of pathogens to other sexual partners (Li, et al., 2015).

Addressing the Problem with Current Evidence

Current evidence shows that patients are more inclined to use a walk-in clinic for STI services, despite access to other healthcare facilities. In a survey conducted by Hoover, et al. (2015), results showed that 49.5 % of patients chose STI walk-in clinics because of the convenience of a same-day appointment, 23.9 % due to low cost, and 8.3 % due to availability of expert STI care. In hopes to alleviate the burden of universal screenings, an attempt has been made to screen women for STIs with specific risk factors, such as prior infections or multiple partners. This resulted in limited success because of suboptimal sensitivity and specificity (Li, et al., 2015).

A national pilot program known as 3Cs & HIV, an educational intervention to improve staff's skills and confidence to increase chlamydia testing rates, was performed that also provided condoms along with contraceptive information and HIV testing recommendations (Town, et al., 2016). Screenings increased significantly in practices doing very little to no chlamydia testing prior to the 3Cs & HIV intervention. However, the full evaluation of this program was difficult due to maintaining practice engagement, with a high practice dropout rate through the pilot study. The participating providers found it time consuming to arrange training sessions. According to Town, et al. (2016), over 70% of young adults visit their primary care provider every year and would rather have chlamydia testing offered rather than requested.

Prevention

An important STI prevention strategy is the promotion of STI screenings. The Affordable Care Act (ACA) emphasizes prevention in addition to care and treatment (Hoover et al., 2015). The Centers for Disease Control and Prevention recommends annual chlamydia testing for sexually active women 25 years or younger (Skala, et al., 2012). HIV serostatus awareness is essential as a "treatment as prevention" tool used as a public health strategy since half of the 50,000 new HIV infections annually are transmitted from people unaware of their positive HIV status (Dugdale, et al., 2014). The director of the CDC's division of HIV/Aids prevention, Jonathan Mermin, MD, stated, "Our goal is to make HIV screening as routine as a blood pressure check" (Dugdale, et al., 2014).

The 3Cs & HIV study concluded that more interventions are needed to increase the likelihood that medical staff will implement STI screenings in general practices. Non-adherence of the exact intervention may explain why a lack of significant chlamydia screenings were performed. A focus on action planning with educational interventions, along with computer prompts and on-going staff support with feedback on progress of screenings and diagnosis rates, may be beneficial in a prevention strategy (Allison, et al., 2017).

Current Practice Guidelines

Currently, the retail medical clinic setting is providing STI screenings, which include: HIV, syphilis, hepatitis C, hepatitis B, chlamydia, gonorrhea, and trichomoniasis for patients presenting to the clinic with a direct request for testing. Informed consent to provide testing must be given to the patient before beginning any lab orders, and a document outlining this must be signed by the patient. Out of scope patients include: patients under the age of 18, patients with evidence or self-report of sexual assault, and pregnant women. These out of scope patients would

all be referred to the required next level of care for further evaluation and management depending on the clinical scenario.

Several guidelines are available to providers at the project site via the internet. The UTI/acute cystitis guideline has the provider collect a history on the patient which included STI risk factors and STI history if symptoms are suspected to be STI related. The contraceptive visit guideline includes collecting the patient's obstetric and gynecological history. This includes menstrual details and date of last menstrual period. Pregnancy status may be determined by a urine HCG if pregnancy is in question. It is also noted to inquire about the HPV vaccination status of the patient.

Current Recommendations

A systematic review of relevant literature between 2002 and 2012 by Phillipson, et al. (2016) was examined that reviews the current practices to increase chlamydia screenings in the communities of Australia, the UK, and Europe. "Proportional screening rates varied, ranging from: 30.9 to 62.5% in educational settings (n = 4), 4.8 to 63% in media settings (n = 6) and from 5.7 to 44.5% in other settings (n = 7)" (Phillipson et al., 2016). Using a risk assessment tool appeared to promote more STI screenings among higher risk groups. Another existing reduction strategy focuses on raising awareness and changing the behavior of condom use through educational settings. Social marketing media principles were also reviewed to promote socially beneficial behavior change with success. According to Low, et al. (2013), currently chlamydia screenings in the USA are recommended for women 25 years and under, in Australia for women under 25 years, and in the UK for both men and women aged 25 years and under. To reduce the transmission and complications STIs the U.S. Preventive Services Task Force and the CDC both recommend routine sexual health discussions between patients and medical providers as a

proactive method for increasing routine HIV and STI testing during medical visits (U.S. Preventive Services Task Force, 2017; CDC, 2011).

Benefits of Current Recommendations

STI screenings for high-risk populations and women 25 years of age and younger, along with educational strategies to raise awareness on behaviors of condom use, are currently being used as ways to prevent and treat STIs. A systematic review examined by Guy, et al. (2011) found that educational packages that targeted primary care physicians to implement screenings for STIs were effective in increasing the screening rate. There are still barriers related to this method that need to be addressed to increase provider compliance.

> "The most commonly physician reported barriers to HIV testing included: 1) low perceived prevalence of disease; and 2) not recommended by current guidelines. Forty-seven providers (76%) reported asking about same sex behaviors rarely or never. Further research on HIV screening practices of STI care providers may help scale up HIV provider-initiated testing and counseling programs"(Tucker, et al., 2012).

By identifying these barriers it helps to investigate ways to support providers in the areas needed to enhance STI screenings. Six intervention strategies were identified by Tucker, et al. (2012) that were associated with increases in chlamydia screening rates. The strategies were:

> "Provision of a urine jar to patients at registration (44% in intervention clinics vs. 16% in the control clinic); linking screening to routine Pap smears (6.9% vs. 4.5%), computer alerts for doctors (12.2% vs. 10.6%); education workshops for clinic staff; internet-based continuing medical education (15.5% vs. 12.4%); and free sexual health consultations (16.8% vs. 13.2%). Of the six interventions targeting males, two found significant increases including the multifaceted quality improvement program in which urine jars

were provided to patients at registration (45% vs. 15%); and the offering by doctors of a test to all presenting young male clients, prior to consultation (29 vs. 4%)" (Guy, et al., 2011).

These interventions show that multifaceted quality improvement programs can be utilized to promote screenings and disease awareness.

Theoretical Model

The health promotion model (Appendix A), established by Nola Pender in 1982, and revised in 1996, identifies background factors that can influence one's health behaviors. This model will serve as a guide to this DNP project. The health promotion model can be applied to many populations to promote healthy outcomes and change. This model is used to assess an individual's background and modifying factors to improve health.

Nola Pender, a nurse educator for over 40 years, teaching Baccalaureate, Masters, and PhD students established the health promotion model from the social cognitive theory using a nursing perspective (Pender, 2011). The social cognitive theory believes that the concept of perceived self-efficacy can be directly related to one's experiences and influences. Pender predicts that a high confidence level will lead to greater likelihood that the behavior will be performed" (Ripollone, 2011).

Three major components to this model are: individual characteristics and experiences; behavior-specific cognitions and affect; and behavioral outcome-health promoting behavior (Pender, 2011). Individual characteristics are personal factors such as biological, psychological, and sociocultural. These also include experiences such as similar health behaviors in the past. Behavior-specific cognitions and affect are described as perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity related affect, interpersonal influences,

situational influences, a commitment to a plan of action, and immediate competing demands and preferences. Behavioral outcome-health promoting behavior describes the desired behavioral outcome of the health decision-making (Pender, 2011).

Application of the Health Promotion Model

Pender's health promotion model can be used in a broad sense in many different settings. This model can be used to redirect the nurse's focus from disease prevention to health promotion of the patient. Expanding the nurse's role to promote good overall sexual health by providing educational resources, disease risks, STI awareness, and STI screenings helps to improve one's health and promote a better quality of life. (Pender, 2011) By using the health promotion model, it allows for the provider to incorporate the SHP into relevant medical visits with the intention to work towards a goal of better health awareness for each patient and increase the provider's confidence and ability to fully assess a patient's sexual health.

The health promotion model (HPM) can be used in a variety of ways as a guide to explore what processes motivate an individual to engage in promotional health behaviors (Pender, 2011). This theory emphasizes that the patient has an active role in their health behavior which can be influenced by outside sources. Interpersonal influences such as health professionals are seen as individuals that can influence patients throughout their lives to affect their outcomes and goals of health promotion (Galloway, 2003). The health promotion model is used as a framework aimed at predicting health promoting lifestyles. Health promotion is interactive with the patient's environment (Corbo, 2017). "For application in the sphere of health promotion the important questions necessary to improve the efficacy of health promotion programs are as follows: Is longevity increased? Is functioning enhanced? Is super-health achieved? Are there any ill effects of these programs?" (Galloway, 2003). The nurse's role within the community and

patients' health is valuable and should seek to improve and transform every medical visit to manifest health promotion.

Application of the Health Promotion Model Tenets to the SHP

The health promotion model can be utilized to establish a framework when developing the SHP for providers. Individual characteristics and experiences are molded by prior related behaviors and personal factors. The behavior specific cognitions and affect can be used to distinguish perceived benefits and perceived barriers of an action. Establishing and utilizing the SHP could carry a perceived benefit of providing the medical provider with a more confidence in identifying patient's sexual health needs. Other anticipated benefits of the SHP are increased patient health outcomes and increased STI screening recommendations by providers. Perceived barriers to action may be providers not feeling they have enough time during the G/U and contraceptive care medical visits to implement the SHP. Personal factors such as interpersonal influences (religion, gender), and situational influences need to be addressed to help determine if these affect the providers behaviors to implement the SHP.

Description of Project Design

The design for this DNP project is quality and performance management improvement. The PDSA model will be used for this project design. This method is used to test a change that is broken down into four steps: plan, do, study, and act. These steps will assist in determining if the change was received well and beneficial to the organization.

Plan

The providers will be the participants for this practice change initiative. The demographics collected will be the age of the providers, gender, years in practice, NP type (Family, Adult, Pediatric, Acute Care), educational level (DNP, PhD, MSN), history of professional work

experience related to working in an STI clinic or obgyn office, and current employment (full-time, part-time or casual part-time). A PowerPoint training presentation, the SHP algorithm, and developed questionnaire tool will be established.

Do

A PowerPoint training for providers will be distributed via email for providers to review the detections times of STIs along with the importance of evaluating patient's sexual health history and encourage STI screenings during patient visits. An algorithm type protocol will be distributed to providers for consideration to implement into care practices to clearly define when it would be appropriate to evaluate a patient's sexual health history and encourage STI screenings.

Study

The developed questionnaire tool measures if the provider has in increase in knowing detection times of STIs, feels they can more appropriately discuss STIs with patients, and screen for STIs during G/U and contraceptive care visits post the educational intervention and SHP algorithm training. Assessment of the providers' level of protocol knowledge and if they feel it will more effectively help them manage screening practices related to STIs following the intervention will be evaluated. The purpose of the practice change initiative is to determine if the educational intervention and SHP is identified by the providers as having positively increased their approach to screening practices. Statistical analysis will be conducted using SPSS, version 24.

Act

Following the intervention, evaluation, and analysis, the results will be reviewed by the organization in hopes of adopting the SHP into daily practice guidelines.

Population of Interest, Setting & Stakeholders

Population of Interest

The population of interest are nurse practitioners that work in a specified region of the New Jersey retail clinic setting. In this region there are 19 retail clinics and about 45 medical providers.

Setting

The practice settings are retail clinics in New Jersey. The organization has separated the clinics by region. The clinics treat patients 18 months and older. The clinics provide services for minor acute illnesses, sports and work physicals, and screenings for hypertension, cholesterol, and STIs. The average amount of patients seen per day, per clinic is appropriately 20.

Stakeholders

Permission from the project site's DNP research committee has been received. As each step is completed additional approvals will be sought out to maintain permission to proceed. The stakeholders identified that will benefit from this DNP project are the nurse practitioners that work in the retail clinic setting and the retail clinic organization. The goal is to increase the knowledge, competency, and confidence of these providers. Increased knowledge, competency, and confidence of providers would ideally result in increased performance and possibly an increase in STI visits at the retail clinic settings which would, in turn, improve the quality of care patients receive. The chief NP officer supports further education of the organization's providers.

Recruitment Methods

Primary Care Practitioners

Nurse practitioners working in the retail clinics will participate in this practice change initiative. Inclusion criteria for recipients include being currently employed, full-time, part-time, or casual part-time at the retail clinic organization, and being currently licensed by the state of New

Jersey. Exclusion criteria for recipients are nurse practitioners that do not provide direct care to patients in the clinic setting. An example of this is someone in a managerial role that does not currently perform medical visits with patients.

Participation in this project will be voluntary. Elicited recruitment methods will include an organizational announcement in the weekly company newsletter and emails to the providers for voluntary engagement of the SHP and post SHP questionnaire for evaluation. The participation of this project is voluntary and anonymous to protect the privacy and confidentiality of participant data. IRB approval is not required by the project site. No specific benefits to participate in the survey will be offered other than providing feedback that would be important to the future development of the retail clinic organization.

Tools/Instrumentation

The STI detection time educational training, SHP, and voluntary, anonymous questionnaire tools will be announced and a link will be distributed to all of the nurse practitioners at the organization. The pre and post-questionnaire items are the same 11 items. A total of 3 content experts rated the items. The CVR for the items were all 1, except one item with a CVR of .88. The mean total of all the item means was 3.5127 indicating that all the questions are essential. The questionnaires developed meet the criteria for what is considered a valid test for use to assess providers after the STI detection time training and implementation of the SHP. The project site's Research Committee expressed the questionnaire items are well-written and concise to what is looking to be measured. The providers will be assessed to determine if they feel they can more appropriately discuss and encourage STI screenings along with knowing STI detection times.

Data Collection Procedures

Data will be collected using Survey Monkey, an online survey tool that has enabled the incorporation of privacy settings for assuming anonymity. Voluntary participation in the SHP and survey will be elicited through organization newsletter announcements and emails to providers with a survey link. The privacy and confidentiality of all participants will be enforced at all times. This information will be collected starting the first week of March, 2018.

Intervention/Project Timeline

In week 1 and 2, meetings with the project site research committee and project mentor will be conducted by the investigator to provide an in-depth overview of the project implementation. In weeks 3, 4, 5, and 6, the educational intervention will be conducted. A pre-questionnaire will be given to participants directly prior to the educational intervention. The post-questionnaire will be distributed in weeks 7 and 8. During week 9, the collected data will be reviewed and consultation with advisors on the progression of the collection will be made. During weeks 10 and 11, an in-depth statistical analysis following the project implementation to assess providers' perceived knowledge and confidence level will be done. During weeks 12 and 13, a written research translation of the project evaluation and interpretation of the findings will be submitted to the school and the project site. In week 14, the results to the project will be presented to the University and the project site's research committee.

The DNP project will take place at a retail clinic organization in one clinical region of NJ consisting of 19 clinics. NPs that work directly with patients at these locations will be notified to participate in this project. The providers will be educated on the importance of STI awareness, STI detection times, and provided with an algorithm to follow related to the SHP. With proper

education and recommendations on STI screenings, more providers may feel more confident and competent to address the STI history and STI screenings of their patients.

System level changes should be implemented to assure appropriate training of providers is consistent to address STI awareness and STI screenings for patients. Genitourinary, UTI, and contraceptive care exams are system related medical visits where the SHP can be utilized appropriately to discuss sexual health history and STI awareness. Providers will be encouraged to implement the intervention during all G/U, UTI, and contraceptive care visits following the SHP PowerPoint educational interventional training. The goal is to have the providers engage in conversation with the patients regarding their STI awareness, STI screening history, and offer STI screenings to the patients.

Ethics and Human Subjects Protection

In the following DNP project, no patient or provider information will be identified or accessed. In addition, the following project is considered a QI initiative and not research. The SHP is a standardized practice change initiative that all practitioners will be responsible for applying to their practice in the care of patients meeting criteria. Therefore, no required consent from practitioners is needed or will be obtained for participation in this project. All HIPPA laws will be enforced. All material will be submitted to Touro University Nevada institutional review board (IRB) and approved prior to the project implementation. No risk will be assumed by the providers involved in this project.

Plan for Analysis/Evaluation

The main objective of this study is to assess whether the providers feel they are more competent and confident to know the detection times of STIs, discuss STI awareness with their patients, and recommend STI screenings. Those who agree to participate will receive a brief

educational review of current clinical practice guidelines related to STIs detection times along with the importance of evaluating sexual health history during G/U, UTI, and contraceptive care visits. The SHP algorithm will be provided to assist the medical providers with when and who to approach for inquiring about STI awareness and recommendations. The providers will be asked to consider and apply the SHP in their practice as they deliver comprehensive and preventative healthcare during visits related to G/U, UTI, and contraceptive care. Before the brief educational intervention a pre-questionnaire will be given. Following the intervention, a post-questionnaire will be given to measure if the educational review has increased whether they know STI detection times and feel more competent and confident regarding discussing STI awareness.

The developed questionnaire items (pre and post) will measure if the provider feels they are more confident to appropriately discuss STI screening guidelines during G/U and contraceptive care visits after implementing the STI detection time educational intervention and SHP algorithm training. A pre-questionnaire, before the educational assessment of the providers' understanding of the protocol and guidelines will be given. Then a post-questionnaire tool can be used to see if they feel it effectively helped them manage screening practices related to STIs. The purpose of the project is to determine if a significant improvement in confidence and knowledge is found following participation in the training program and if the corrective action is identified by the providers as having positivity increased their approach to screening practices. The statistical evaluation test to be used is the Wilcoxon Signed Rank Test.

Significance/Implications for Nursing

Clinics and general practitioners have a major role in STI care. NPs are often one of the first healthcare professionals encountered when patients access healthcare for health screenings. NPs are in a position to utilize the SHP to help them feel more prepared to identify STI detection

times and decrease STIs in clinical practice. Improved STI provider training and detection protocols improve STI screening rates and lead to a decrease in STI transmission. Incorporating the application of the SHP, if used properly, can contribute to the provider's delivery of patient-centered care. This educational intervention for providers can play an integral role in promoting awareness and improving STI screenings in the practice setting. STI health education at any level, whether it be the provider, patient, or community, is beneficial when combined with access to treatment (Chesang, et al., 2017).

To improve patient outcomes related to STI prevention and screenings, STI prevention initiatives need to be accessible, comprehensive, implemented through a functioning health system, and be timely (Brown, et al, 2005). "Testing and getting treated for sexually transmitted infections (STI) other than HIV also is important to reducing the spread of HIV because having an STI increases the likelihood of HIV transmission" (Ober, et al., 2012). Benefits from improving STI control and reducing STI rates include healthcare savings related to STI episodes averted from incurred economic productivity losses, morbidity and mortality due to infertility, pregnancy and congenital complications and psychosocial impacts (Korenromp, et al., 2017).

Analysis

The statistical analysis was conducted using the Statistical Package for Social Sciences, (SPSS) version 24. The statistical evaluation test used was the Wilcoxon Signed Rank Test. Nineteen nurse practitioners completed the pre and post questionnaires. The findings indicated that 100% of the participants were family nurse practitioners with a reported highest education level of a master's degree. There were 63.1% of the participants with 0-5 years in practice as an NP; further there were 21% of the participants with 6-10 years of experience as an NP, 5.2% of the participants with 16-19 years, and 10.5% with twenty years in practice as an NP (see Figure 1).

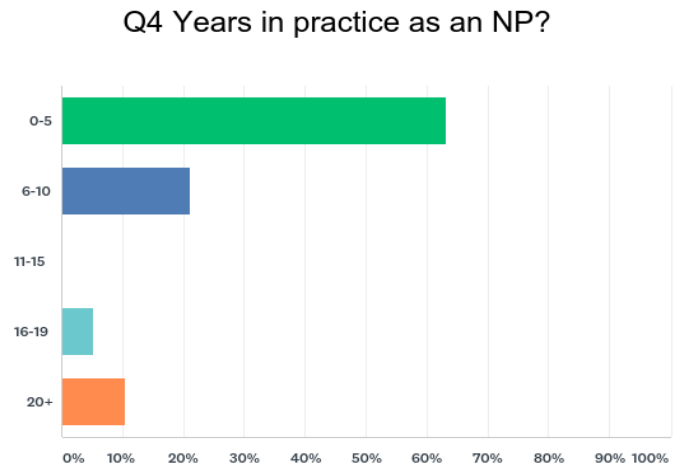

Figure 1. Years in Practice as an NP.

The findings indicated in the post questionnaire showed that 47.3% of the participants would "Always" discuss STI testing during visits related to contraceptive care and urinary tract infections. This finding showed there was an increase of 33%, when compared to the same question in the pre questionnaire, which showed 15.8% would "Always" discuss STI testing during visits related to contraceptive care and urinary tract infections (see Figure 2).

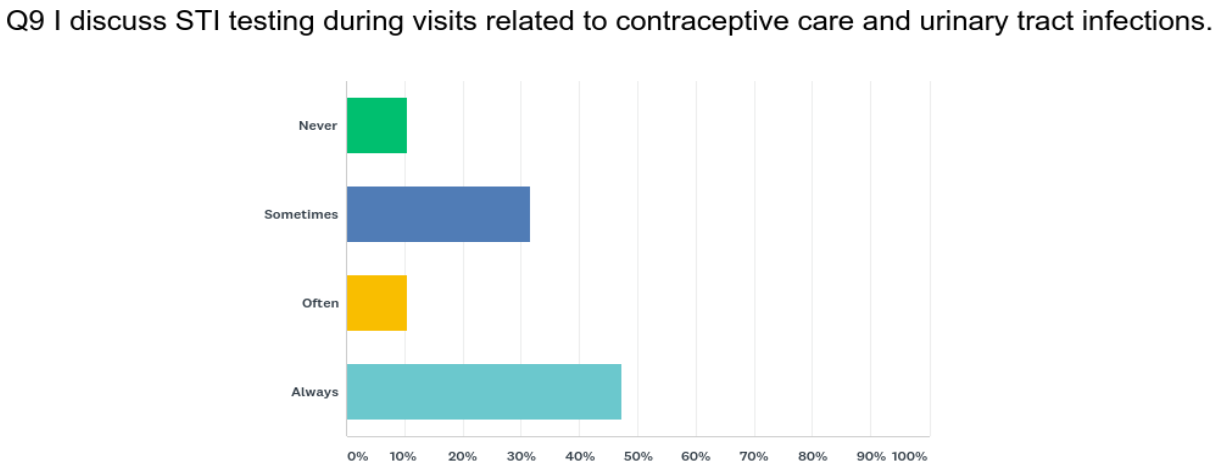

Figure 2. I discuss STI testing during visits related to contraceptive care and urinary tract infections.

The findings of the post questionnaire indicated that all six questions that looked at the confidence level of the respondents showed an increase in confidence in the participants' questionnaires following the educational intervention. All four questions that related to the provider's knowledge level after the educational intervention increased. A Wilcoxon Signed Rank test showed a statistically significant increase in confidence and knowledge following participation in the educational intervention. (see Figure 3)

Figure 3. Wilcoxon Signed Rank Test

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles 25th	50th (Median)	75th
Pretest	19	56.58	19.091	23	87	35.00	65.00	71.00
Posttest	19	82.47	17.450	42	100	74.00	87.00	100.00

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Posttest - Pretest	Negative Ranks	0[a]	.00	.00
	Positive Ranks	18[b]	9.50	171.00
	Ties	1[c]		
	Total	19		

a. Posttest < Pretest

b. Posttest > Pretest

c. Posttest = Pretest

Test Statistics[a]

	Posttest - Pretest

Z	-3.726[b]
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Discussion of the Findings

The findings of this DNP project showed there was an improvement on providers' knowledge related to STI detection times and a providers' confidence related to obtaining patient's sexual health histories. The Sexual Health Protocol (SHP) and educational intervention initiated more providers obtaining STI screening and treatments which led to an increase in questions regarding the project site's STI guidelines.

The following question on the pre questionnaire: "I discuss STI testing during visits related to contraceptive care and urinary tract infections" showed a response 15.8% for "Always" and the post questionnaire item findings were 47.4% for "Always". This finding showed a 31.6% increase in providers discussing STI testing with patients. This item alone provided significant insight into the improved STI testing discussions between providers and patients following the educational intervention. The findings indicated that the confidence questions and knowledge questions all showed improvements in the post questionnaires. The 3Cs & HIV program is another educational intervention used to improve staff's skills and confidence to increase chlamydia testing rates (Town, et al, 2016).

The SHP algorithm was included in the educational intervention and used by the participants. According to Town, et al. (2016), over 70% of young adults would like to have chlamydia testing offered rather than requested. The SHP algorithm assists providers in this interaction with patients. Utilizing this tool assisted the providers in discussing patient's STI testing history.

Significance/Implications for Nursing

This project is significant to nursing and represents the importance of incorporating an evaluation tool to be used for providers when communicating with patients during office visits. Professional confidence in a providers communication skills assists to be part of a competent and effective patient interaction. (Hecimovich & Volet, 2009) Educational interventions assist in educating practitioners with up-to-date information on diseases and treatments. Structured protocols assist providers to identify when an intervention is necessary that could lead to immediate screenings or treatments.

The SHP and educational intervention contributes to obtaining patients' STI histories along with increasing providers' knowledge base regarding STI detection times. A targeted intervention toward identification and screening of patients has the potential to improve patient outcomes and promote safety. According to Dugdale, et al, (2014), the CDC's goal is to make HIV screenings as routine as a blood pressure check. Using a risk assessment tool shows to promote more STI screenings (Phillipson, et al., 2016).

Limitations of the Project

Even though the objectives of the DNP project were met there were several limitations to the project. A limitation of the project is that data collection regarding the number of STI screenings pre and post educational intervention was not an intervention that was approved by the clinic leadership, thus not included as part of the project design. Another limitation of the project that was not assessed is whether the sex of both the patient and provider had any influence on the patient-provider communication relationship. According to studies there is a gender difference in attitudes of patients when the physician of the same gender performs gender-concordant procedures (Ramirez, et al., 2009).

Dissemination of the Project

This project can be further disseminated by practice sites adopting the SHP protocol and STI documentation as part of the intake of patient care at an organization. In addition the use of a SHP protocol and STI documentation will further assist providers in obtaining STI screenings and treatment which is expected to increase overall patient outcomes. The information can be disseminated into the nursing community with submission of a manuscript to peer reviewed journals for future publication. Communication of the project results through publication would assist in sharing the knowledge with providers for the development of communication skills and patient assessment of sexual health.

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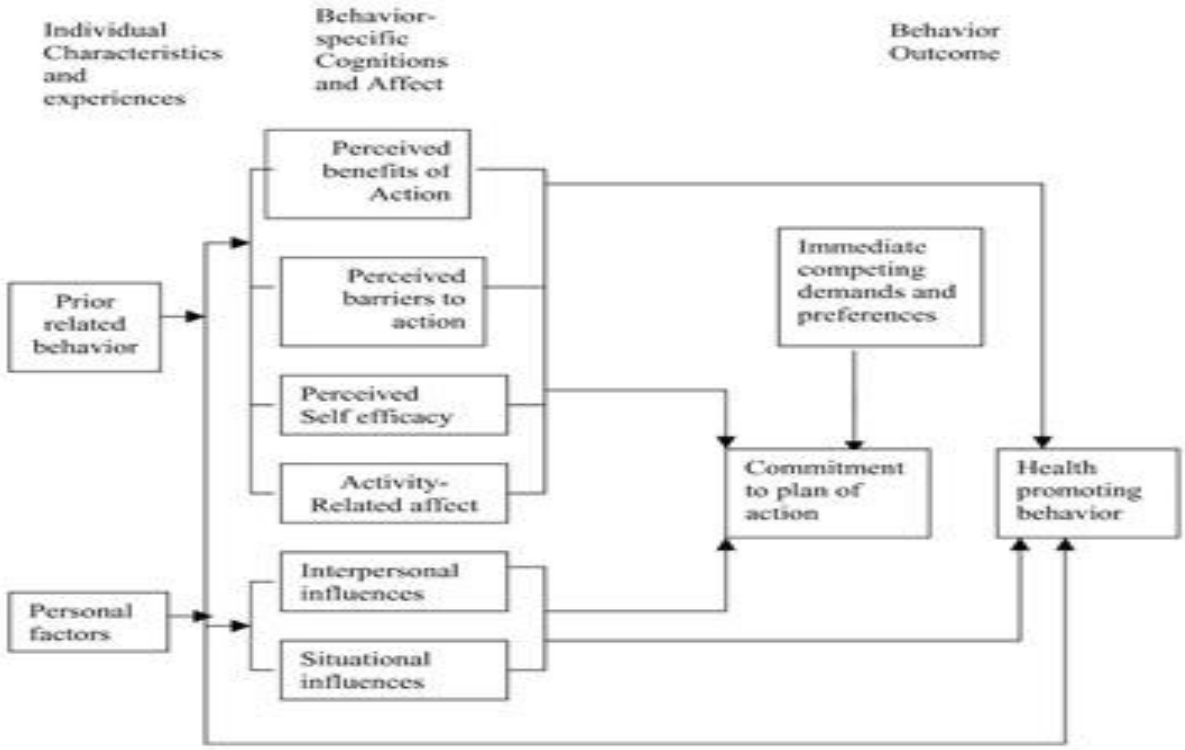
Appendix A: The Health Promotion Model



Appendix B: SHP Algorithm Flowchart

The following is a Sexual Health algorithm flow chart for providers to utilize that includes a simple guide for when to initiate sexual health history and STI screenings of patients during Genitourinary and contraceptive clinic visits at the retail medical clinic.

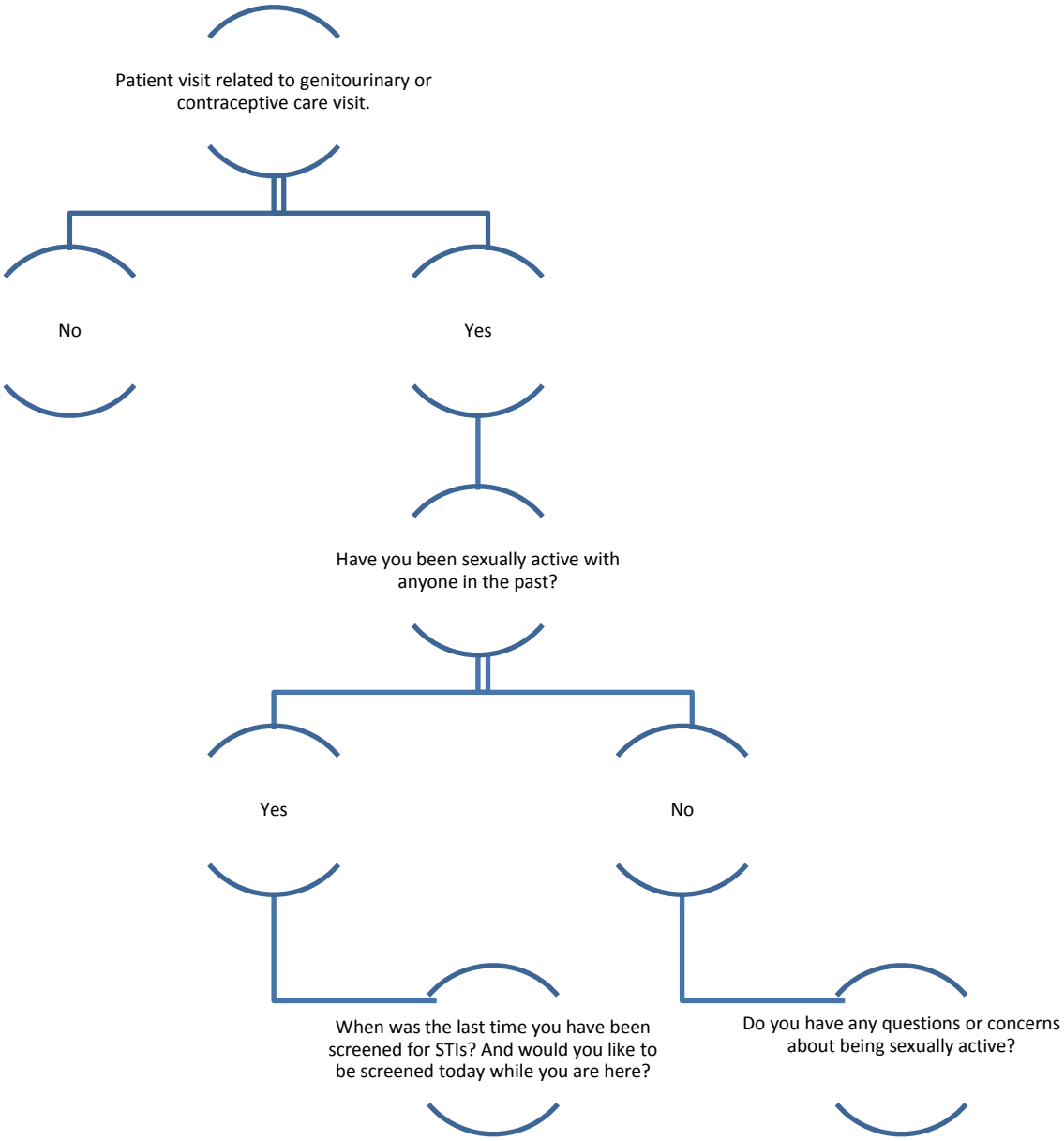
I. Purpose: The purpose of the SHP algorithm use is to promote sexual health assessments and STI screenings.

II. Scope: Nurse practitioners at the organization that are involved in direct patient care.

III. Responsibility: This protocol applies to nurse practitioners responsible for the assessment of patients presenting with a genitourinary or contraceptive care visit.

IV: Procedure: The SHP algorithm flow chart should be utilized during medical visits related to genitourinary and contraceptive care visits. This should be initiated during the subjective assessment of the patient.

V. Enclosure:


Patient visit related to genitourinary or contraceptive care visit.
No
Yes
Have you been sexually active with anyone in the past?
Yes
No
When was the last time you have been screened for STIs? And would you like to be screened today while you are here?
Do you have any questions or concerns about being sexually active?

Appendix C: Pre and Post-Questionnaire Tools with Demographics Section

Demographics

1. I consent to participate in this questionnaire.
   1-Yes
   2-No
2. Create a 2 digit unique identifier that you must remember to link the pre and post questionnaires.
   _ _ _
3. Gender
   1-Female
   2-Male
4. Years in practice as an NP?
   1- 0-5
   2-6-10
   3-11-15
   4-16-20
   5-20+
5. NP Type
   1-Adult

   2-Family

   3-Other

6. Highest education level
   1-Masters

   2-PhD

   3-DNP

7. Previous work history in an STI clinic?
   1-Yes

   2-No

8. Current employment status at Minute Clinic
   1-Full-time

   2-Part-time

   3-Casual part-time

   4-Float

Expert Rating Form (Pre and Post-Questionnaire Items)

Item
1. I discuss STI testing during visits related to contraceptive care and urinary tract infections. 1-Never 2-Sometimes 3-Often 4-Always
2. I am confident inquiring about the number of sexual partners a patient has had. 1- Not confident at all 2-Slightly confident 3-Neutral 4-Moderately confident 5-Extremely confident
3. I am confident inquiring about STI prevention practices a patient uses. 1- Not confident at all 2-Slightly confident 3-Neutral 4-Moderately confident 5-Extremely confident
4. I am confident inquiring about if a patient has had an STI in the past. 1- Not confident at all 2-Slightly confident

3-Neutral 4-Moderately confident 5-Extremely confident
5. I am confident inquiring about a patient's sexual activities. 1- Not confident at all 2-Slightly confident 3-Neutral 4-Moderately confident 5-Extremely confident
6. I am confident inquiring about a patient's STI screening history. 1- Not confident at all 2-Slightly confident 3-Neutral 4-Moderately confident 5-Extremely confident
7. I am confident discussing STI screenings and sexual health history during medical visits unrelated to a chief complaint of STI. 1- Not confident at all 2-Slightly confident 3-Neutral 4-Moderately confident 5-Extremely confident

8.The detection time of Hepatitis C is: A. 2-4 weeks after exposure B. 6-7 weeks after exposure C. 120 days after exposure
9. The detection time for chlamydia is: A. 8-21 after exposure or longer B. 1-2 days after exposure C. 24 hours after exposure
10. The detection time for HIV is: A. 2-6 weeks after exposure but may take up to 6 months. B. 1 year after exposure C. 1 week after exposure
11. The "Five P's" approach to obtaining a sexual health history on a patient are: A. Partners, practices, prevention of pregnancy, protection from STDs, and past history of STDs. B. Population, protocol, past history of STDs, practices, and partners. C. Population, partners, prevention, prime age, and protection from STDs.

Content Validity Index Table Pre Questionnaire

Item	CVR of Item	Expert 1	Expert 2	Expert 3	Mean
1	1	4	4	3	3.66
2	1	3	3	4	3.33
3	1	3	3	4	3.33
4	1	3	3	3	3
5	1	3	3	3	3
6	1	3	3	4	3.33

7	1	4	4	3	3.66
8	1	4	4	4	4
9	1	4	4	4	4
10	1	4	4	4	4
11	.88	4	4	2	3.33

The procedure consists of having experts rate items on a four-point scale of relevance. Then, for each item, the item (CVI) (I-CVI) is computed as the number of experts giving a rating of 3 or 4, divided by the number of experts-the proportion in agreement about relevance.

The content validity index is calculated using the following formula:

CVR = [(E-(N/2)) / (N/2)] with E representing the number of judges who rated the item as essential and N being the total number of judges.

The mean total of all of the means was 3.5127 indicating that all of the questions were essential.

The calculation is as follows:

CVR = [(3-(3/2)) / (3/2)]

CVR = [(3-1.5) /1.5]

CVR = 1.5/1.5