INITIATING A STANDARDIZED SCREENING TOOL FOR SEXUAL HISTORIES IN COLLEGE STUDENTS

Christine Nora Koenig

A Project Report Submitted to

The Faculty of The School of Nursing at

The University of North Carolina at Greensboro

In Partial Fulfillment

Of the Requirement for the

Doctorate in Nursing Practice

Greensboro

2024

"I have abided by the Academic Integrity Policy on this assignment."

Christine Koenig, 3/14/24

Table of Contents

Abstract

Background: Sexually transmitted infections (STIs) are a consistent and growing problem in the United States. Individuals at risk for contracting an STI are adolescents and young adults. Most college students fall within this category, making them particularly vulnerable to acquiring and spreading these infections. If left untreated, STIs cause detrimental effects such as infertility, pelvic inflammatory disorders, reproductive cancers, and spread of infections (Van Gerwen et al., 2022). Obtaining sexual health histories using the Center for Disease Control and Prevention's protocol involving the "5 P's" can ensure early diagnosis and treatment of STIs.. This protocol represents each category of a complete sexual health history: partners, practices, protection from STIs, past history of STIs, and pregnancy intention (CDC, 2022a). **Purpose:** The purpose of this project was to implement a standardized sexual health history protocol at a college health center to allow staff to obtain a more thorough history so patients can be treated more effectively. **Methods:** Providers at a student health clinic were surveyed using a LIKERT scale before and after incorporating the CDC's standardized protocol in the EMR to assess their opinions on the sexual health template. **Results:** After implementation, most providers believed the protocol provided them with enough information to develop a plan before meeting and assessing the patient. **Recommendations and Conclusion:** This project included a very small sample size, which did not allow for any statistically significant data to be collected so future studies should involve a larger sample size.

Key Words: "sexual health history", "benefits of sexual history taking", "complete sexual history", "standardized protocol", "college health center", "5 P's of sexual history", "consequences AND sexual history", "sexually transmitted infections".

Background and Significance

Despite immense efforts to control the spread of sexually transmitted infections, the prevalence of infection continues to rise in the United States. The Centers for Disease Control and Prevention (CDC) estimates that 1 in 5 people in the United States has suffered from a sexually transmitted infection (STI) (2022b). In addition, STIs hold a significant burden on United States healthcare costs, estimating that in 2018, the lifetime cost of new STIs was $16 billion (CDC, 2022b). Considering the significant burden on the US population and the healthcare system, an important strategy to reduce the number of STIs in the US is through prompt screening and treatment (CDC, 2022b).

College students fall within the population of people aged 15-24 years old, adolescents and young adults, who are at a high risk of contracting sexually transmitted infections (Henderson et al., 2020). This age group accounts for 45.5% of all new STIs in the United States, according to a survey done by the CDC (2021). Significant causation of this figure is due to this population's lack of education and the delay in diagnosis and treatment of STIs by healthcare providers (Palaiodimos et al., 2020). A comprehensive sexual history is a vital component of the medical exam, but unfortunately, many times this history is not completely obtained. A study done by Palaiodimos et al. provided evidence that only 1.08% of 1017 primary care visits explored every vital component of a sexual health history (2020). Factors that lead to a partial or omitted sexual history include time constraints on providers, provider discomfort when obtaining the sexual history, embarrassment by the patient, and lack of knowledge of STI guidelines (Palaiodimos et al., 2020). These factors are barriers in STI education, diagnosis, and treatment and contribute to the overall increased incidence of STIs across the United States.

The importance of obtaining a complete sexual history allows providers to individualize care for an individual at risk for STI. Asking the correct sexual health questions also allows patients to express their sexual concerns, allows providers to recognize gaps in patient education that need to be addressed, and allows providers to understand their patient's pregnancy intentions (Brookmeyer, et al., 2021). In addition, the consequences of not detecting and treating an STI are detrimental. Consequences include increased spread of STIs, pelvic inflammatory disease, ectopic pregnancy, stillbirth, infertility, congenital deformities, and more (World Health Organization, 2019). Each consequence is accompanied by an increased burden on patients and the healthcare system. These consequences arise due to ethical and legal issues such as females being asked about their sexual history more than men, younger adults being asked about their sexual history more than older adults, and homosexual and transgender patients being asked about their sexual health questions less than heterosexual patients (Palaiodimos et al., 2020). Using a standardized approach when obtaining a sexual history can reduce the consequences and ethical issues, and lead to better patient outcomes. The approach can detect potentially harmful STIs early, allow for preexposure education, and allow for preconception counseling (Savoy, O'Gurek, & Brown-James, 2020).

An example of a standardized approach for obtaining a comprehensive sexual history in primary care is "the five P's" (CDC, 2022a). This approach allows ancillary medical staff to follow a series of questions to obtain information about a patient's sexual history that is often not asked. The five "P's" include partners, practices, protection from STIs, past history of STIs, and pregnancy intention (CDC, 2022a). According to Palaiodimos, et al., 2020, it was found that only 1.08% of visits included a discussion on partners, practices, pregnancy, protection, and past STIs. Since many office visits lacked a portion of the sexual history, there is a major need for a

standardized approach. Considering these facts and the alarming rates of STIs among adolescents, using a standardized approach within this population can allow providers to care for these patients more effectively and thoroughly.

Implementing the five "P's" into practice at a student health center can help ancillary staff obtain each major topic in sexual history and reduce repetition by the provider. This can lead to less patient embarrassment, less time wasted obtaining partial information by the providers, and a more standardized way of obtaining needed information. Ultimately, the goal of this project was to implement an approach that allows providers to obtain the same information, each time, to help guide their screening and treatment options within the college student community.

Purpose

The purpose of this project was to implement a standardized sexual health history protocol at a college health center allowing staff to obtain a more thorough history for more effective treatments for patients.

Review of Current Evidence

Current literature was reviewed regarding sexual health histories. Databases that were used to conduct this research were PubMed, Google Scholar, and CINHAL. Search terms that were used in the databases included: "sexual health history", "benefits of sexual history taking", "complete sexual history", "standardized protocol", "college health center", "5 P's of sexual history", "consequences AND sexual history" and "sexually transmitted infections". Literature that was considered for review included full-text publications that were written in English, peer-reviewed, and from 2017 or later. A total of fifteen publications were used to examine the

incidence of complete sexual histories, barriers to taking a sexual history, consequences of omitting portions of a sexual history, the 5 P's of taking a sexual history, and the benefits of implementing a standardized sexual protocol.

Incidence of a Complete Sexual History

Standardizing the approach to taking a sexual history in a college health center is an important aspect of providing thorough, appropriate, and individualized care. Unfortunately, a routine complete sexual history is omitted by healthcare providers an estimated 60-100% of the time (Rubin et al., 2018). The lack of a complete sexual history is apparent in the study conducted by Pretorius et al. (2021), where researchers found that sexual histories were conducted on 5 out of 151 (3%) patients. Rubin et al. (2018) emphasize the point that sexual histories are rarely completed by arguing that medical students are never trained on how to take a sexual history and when they become doctors, they often omit this information from their practice. This omission is further evident in a 2020 study that showed only 11 out of 1,017 (1%) patients received all components of a sexual history (SH), which included: partners, practices, pregnancy intention, protection, and previous STI (Palaiodimos et al., 2020). Additionally, the literature suggests that primary care providers exclude sexual histories even when patients present symptomatic (Brookmeyer et al., 2021). By providing a standardized protocol to a college health center, the goal is to increase the incidence of patients receiving a complete sexual history and minimize the many barriers that often prevent effective sexual history taking.

Barriers to Taking a Sexual History

Literature suggests that without the use of a standardized sexual history protocol, minimal information about sexual health is obtained because of both patient and provider-related

barriers. Adolescent and elderly patients have been defined as vulnerable populations because of how infrequently the topic of sexual health is addressed during primary care visits with these age groups (Hegde et al., 2018). Likewise, males were less likely than females to be asked sexual health questions (Palaiodimos et al., 2020). These issues are due to both patient and provider-related barriers. Patient-related barriers include previous negative experiences with sexual health, embarrassment, fear that their concerns will not be adequately addressed, and patients not knowing which healthcare provider (HCP) to discuss sexual issues with (Kingsberg et al., 2019). Provider-related barriers that led to the omission of portions or all the sexual history include time constraints, the provider being of a different gender than the patient, the provider being younger than their patient, and lack of training or education (Kingsberg et al., 2019; Palaiodimos et al., 2020; Rubin et al., 2018). These barriers that exist when taking sexual histories within primary care offices can lead to several consequences and can impact the overall quality of care for patients.

Consequence of Not Taking a Complete Sexual History

Current studies demonstrate that missing information about a sexual history can lead to specific consequences that lead to poor outcomes for patients and healthcare facilities. One major poor outcome is the delayed or missed diagnosis of a sexually transmitted disease. Delayed or misdiagnosis of STIs can lead to pregnancy issues, reproductive cancers, and pelvic inflammatory disease in women, which can cause infertility (Van Gerwen et al., 2022). In men, the delayed or misdiagnosis of STIs can lead to STI spread, attributing to an estimated 27 million new STIs annually (Weinstrock et al., 2021). In the United States, this burdens the healthcare system with an estimated 16 billion dollars (Weinstrock et al., 2021). Another major consequence of not completing a sexual history is the inability to address sexual concerns and

provide sexual health education to patients. Considering the barriers mentioned above, patients often go without addressing their sexual concerns such as painful sex, erectile dysfunction, and decreased desire and pleasure (Kingsberg et al., 2019). In addition, without sexual health being addressed, sex education and safe sex practices are often omitted from visits, contributing to unintended pregnancies and the spread of STIs (Agwu, 2020). Introducing a recognized sexual health history standardized protocol in a clinic can help alleviate consequences caused by missing sexual health information. The CDC's guide to taking a sexual history is used consistently in the United States and versions of it have been used by numerous state health departments, the National Coalition for Sexual Health, the Sexual Medicine Society of North America, and the Sexuality Information and Education Council of the United States.

The Standardized Protocol

The CDC's guide to taking a sexual history has proved to be effective in preventing the omission of important sexual health information. The CDC defines the 5 P's of a sexual health history as a discussion between a provider and patient about the patient's partners, practices, protection from STIs, past history of STIs, and pregnancy intentions (CDC, 2022a). Rubin et al. (2018) endorse the 5 P's presented by the CDC and suggest that incorporating this framework into medical training is an essential part of increasing the incidence of sexual health histories being taken in primary care. Furthermore, incorporating this protocol into the electronic medical record (EMR) can increase the rates and completeness of sexual health histories (Palaiodimos et al., 2020). Although Sheddan & Wood (2020) found that educating staff about the 5 P's via webinar did not increase the rates of sexual histories being complete, incorporating the 5 P's into the EMR can potentially prove otherwise. The 5 P's of taking a sexual history will allow providers to obtain a complete sexual history, minimize barriers and consequences associated

with omitting portions of the history, and overall, lead to a better quality of care for college students at this health center.

Benefits of the Standardized Protocol

The CDC recognizes the 5 P's as an effective way to gather all the information providers will need to educate, diagnose, and treat sexual health issues (2022a). Previous literature suggests that when providers felt comfortable asking sexual health questions, adolescents and young adults felt more comfortable disclosing information, emphasizing the importance of patient-provider relationships (Hoopes et al., 2017). When the provider begins the conversation about sexual health, patients find that it is often easier to discuss issues and practices (Ryan et al., 2018). Having a standardized protocol will allow providers to gain the confidence needed to ask personal questions in a way that will build rapport. In addition, when adolescents and young adults are asked about their sexual history and admit their practices, providers often offer them STI testing and provide education about safe practices and pregnancy prevention (Liddon et al., 2020). The emphasis on establishing a trusting relationship through standardized sexual health questions can decrease the incidence of STIs, increase patient education about STI and pregnancy prevention, and lower healthcare costs (Sheddan & Wood, 2021; Barrow et al., 2020).

Rationale for Conducting this Doctorate Nurse Practice (DNP) Project

The evidence provided by the literature review emphasizes the importance of obtaining a complete sexual health history in adolescents and young adults. Introducing the protocol, educating staff about its use, and then implementing the protocol can not only increase the rates of a complete sexual health history being taken but also allow staff and patients to feel more comfortable during this part of the visit. This protocol can potentially lead to positive change by

lowering the incidence of STIs within the college health clinic, distinguishing more prompt treatment of STIs, increasing education provided to students, and decreasing the burden on the college healthcare system.

Conceptual Framework/Theoretical Model

Figure 1 (Burnes, 2019)

When considering organizational adjustment, Kurt Lewin's Change theory is an important framework to abide by to ensure sufficient, effective change. This framework focuses on the importance of working as an organizational group to ensure three key steps are met: unfreezing, changing/moving, and refreezing, as depicted in Figure 1 above with permission from Sage Publications (Burnes, 2019). In the first step, unfreezing, the leader identifies an aspect of practice that needs change and offers education to other organizational members to gain support (Hussain et al., 2018). Engaging employees and allowing input is an important aspect of increasing employee support for the change (Hussain et al., 2018). The second step, or changing/moving, is implementing the specific change. In this step, education is a crucial part of ensuring that employees recognize and implement the actual change (Burnes, 2019). Finally, the refreezing step is maintaining the new practice through reinforcement and motivation (Burnes, 2019). This is an important step to ensure the overall change lasts within the organization.

Using Lewin's Change theory will help to ensure the process of obtaining a complete

sexual history is a successful one. The unfreezing phase will focus on understanding the concerns and barriers of obtaining a sexual history and gaining employee insight and ideas to improve the process. The changing/moving phase will be implementing a section in the electronic medical record that allows employees to successfully obtain a complete sexual history. Finally, the refreezing phase will focus on gaining provider insight into the benefits of the new sexual history section in the electronic medical record (EMR) and making necessary changes that will ensure the continued use of the section. Allowing the employees to participate in changing the process of obtaining a sexual history will benefit the success of the change in the long run.

Translational Framework

The purpose of this project was to implement the use of a standardized sexual health protocol in a college health center to decrease the consequences and barriers associated with an incomplete sexual health history and improve the quality of sexual health care for these patients. This project consisted of a pre-intervention phase, an intervention phase, and a post-intervention phase. It was a quality improvement (QI) project because the facility had a sexual health questionnaire that needed enhancement. In addition, the staff needed training on when and how to ask the sexual health questionnaires. Using the Plan-Do-Study-Act (PDSA) framework, an intervention was implemented to improve the facility's existing practice.

The PDSA framework consists of creating a plan to improve a specific practice, implementing the plan to conduct a change, studying the effects of this new practice over time, and deciding whether this change will be continued or improved (Chen et al., 2021). The three phases of this DNP project structured the "plan" portion of the framework. Educating staff about the standardized process of obtaining a sexual history and incorporating this into their practice was related to the "do" portion of the framework. In addition, providers at the clinic were

provided education about the standardized protocol and this protocol was incorporated into the clinic's EMR. The post-intervention phase allowed for data to be obtained and was considered the "study" portion of the framework. If the data showed positive results, the faculty would continue to incorporate this protocol, effectively correlating with the "act" portion of the framework. Using this framework, staff can improve the overall process of obtaining a complete sexual history in the future.

Plan

The first stage of the PDSA framework was the plan. This portion incorporates what you already know about a practice and creates a plan to improve the quality of that practice (Chen et al., 2021). The plan begins by identifying a specific problem and establishes an attainable goal that can be achieved by developing a plan (Chen et al, 2021). This DNP project focused on a problem that several health centers face, not having enough sexual health information to treat patients (Rubin et al., 2018). Numerous sources suggested that incorporating a standardized protocol was an important feature of health centers obtaining complete sexual health histories (Brookmeyer, et al., 2021; Palaiodimos et al., 2020; Sheddan & Wood, 2021). After first evaluating the current state of how frequently a complete sexual health history was being obtained at the college health center, a standardized protocol developed by the CDC was researched to be implemented and used by staff to allow providers to have easier access to a patient's sexual health. An important aspect of this stage was to obtain the provider's opinion via a Likert scale before implementing the standardized protocol to understand how they used the current template. Once all this information was obtained, it was important to create a strategic plan to address the problem.

Population and Setting

This project was conducted at a college health center that is part of a state university in the Southeastern United States. The college enrolls both undergraduate students and graduate students, all of whom have access to the student health center. In addition, the college health center allows the faculty of the university to also be seen in the health center. The project collected data from a total of 7 providers that treat these students and facility members. Ancillary staff was incorporated into the education of the standardized protocol, but no data was collected from these staff members.

Do- (Methods)

The second stage of the PDSA framework is "do". This stage incorporates everything that is needed to carry out the project including steps taken, instruments used, how data was obtained, timelines developed, and approvals needed (Chen et al., 2021). This quality improvement project focused on taking an existing sexual health questionnaire embedded in the EMR of the student health center and modifying it to follow a standardized protocol. This was done through three phases: the pre-intervention phase, the intervention phase, and the post-intervention phase.

Pre-intervention Phase

During the pre-intervention phase, involved stakeholders such as the medical director overseeing the health center, the executive director of the health center, and the nursing supervisor granted permission for this project to take place at the student health center. IRB approval was granted from all participating entities. The project was then explained to the health center's providers, a Likert questionnaire was administered to them, and data was collected

regarding the current practice of obtaining a sexual history and provider's opinions on how complete these histories were (See Appendix A). This data was obtained anonymously using SurveyMonkey and did not incorporate any provider information.

Intervention Phase

The intervention phase began by educating ancillary staff about the standardized protocol that was going to be embedded into their EMR. Staff was shown this protocol and allowed to ask questions. In addition, staff was educated regarding what visits would benefit from a complete sexual history begin taken such as sexually transmitted infection testing and urinary issues. Symptoms such as dysuria, frequency and urgency in urination, abdominal pain, abnormal vaginal or penile discharge, and genital rash were emphasized and the staff was encouraged to use the protocol when patients present with like symptoms (Behzadi et al., 2019). By working with the information technology department, the existing sexual history template was updated to the 5 P's of sexual history as outlined by the CDC. The new template was then used as the sexual health template in the EMR for the next 4 weeks for each visit needing a sexual health history taken.

Post-intervention Phase

The post-intervention phase consisted of a Likert questionnaire, similar to the one in the pre-intervention phase, administered to participating providers (see Appendix A). The only change to the questionnaire was that it highlighted the fact that the sexual health history template of the EMR was recently changed and asked providers to answer according to the new changes. These surveys were collected anonymously using a password-protected SurveyMonkey. No provider data was collected. The opinion data that was collected during the pre-intervention

phase would then be compared and analyzed to the opinion data collected during this phase.

Instruments

The major instruments that will be used in this project are the Likert scales that were created specifically for this project. A Likert scale is a popular questionnaire that has proven to be most reliable when offering seven points: strongly disagree, disagree, slightly disagree, neither agree nor disagree, slightly agree, agree, strongly agree (Taherdoost, 2019). Similarly, as you increase the number of points on the scale, the validity of that scale also increases (Taherdoost, 2019). The use of a Likert scale will allow for providers' opinions to be obtained and create data that ultimately will determine if the standardized protocol improved the clinic's practice of obtaining sexual health histories.

Timeline and Critical Milestones

The following table represents the timeline of the project:

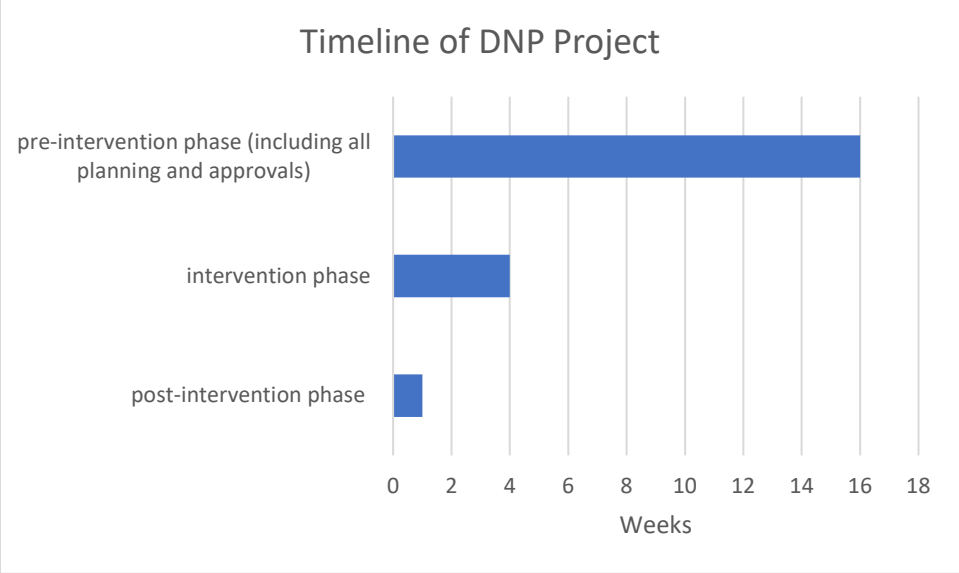

Figure 1: Timeline of events for DNP project

IRB approval

Participants in this project remained anonymous using a password-protected anonymous pre- and post-intervention survey. Participants were aware that their survey answers would not be directly linked back to them. In addition, no student or patient data was shared with the private investigator and no health data was obtained throughout the project. The Institutional Review Board (IRB) at the project investigator's university considered the study negative for human subject research. After receiving IRB approval from both universities, the project was able to be implemented.

Study

The next stage of the PDSA framework is "study". This stage is when the investigator analyzes and draws conclusions from the data that was collected in the previous stage, discusses the results of the data, and incorporates any strengths or weaknesses of the project (Chen et al., 2021). The data that was collected included the providers' survey answers from the pre-intervention phase and the providers' survey answers from the post-intervention phase. Each survey consisted of five questions, organized in the same order for each provider. Although no provider information was obtained during these surveys, the questions were all the same and in the same order, allowing for comparisons to be made between pre-intervention and post-intervention data. Bar charts were created based on the data received for each question of the Likert scale and analysis was made based on the differences between responses from the providers to each question.

Results

Pre-intervention data was obtained from six providers and post-intervention data was also obtained from six providers at the student health clinic. A total of eight providers total were sent the pre-intervention and the post-intervention surveys.

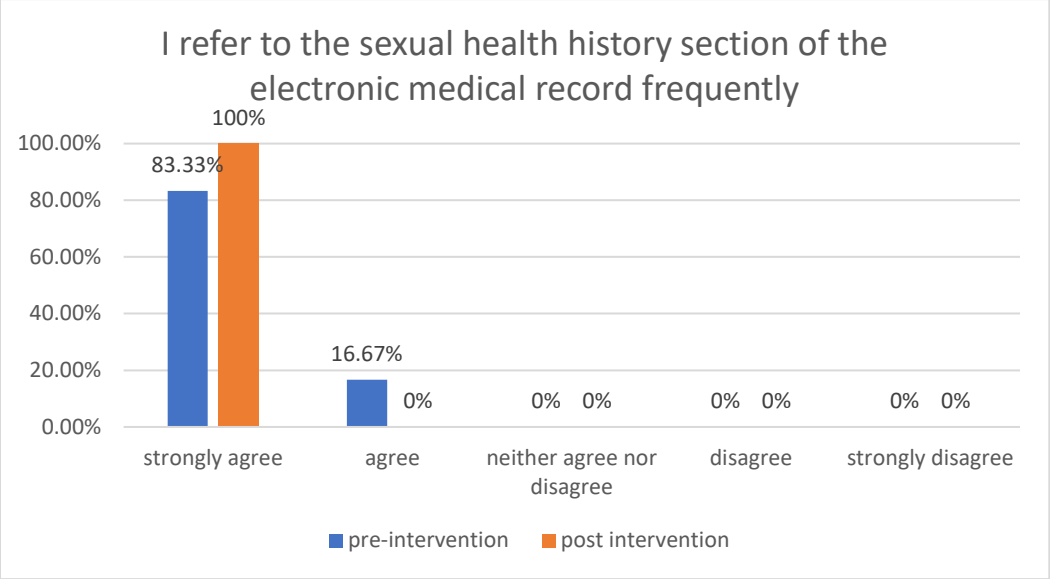

Figure 2: Results from Likert scale survey question 1

According to figure 2, providers strongly agreed when asked if they refer to the sexual health history section of the EMR 83.33% of the time on the pre-intervention survey, and 100% of the time on the post-intervention survey.

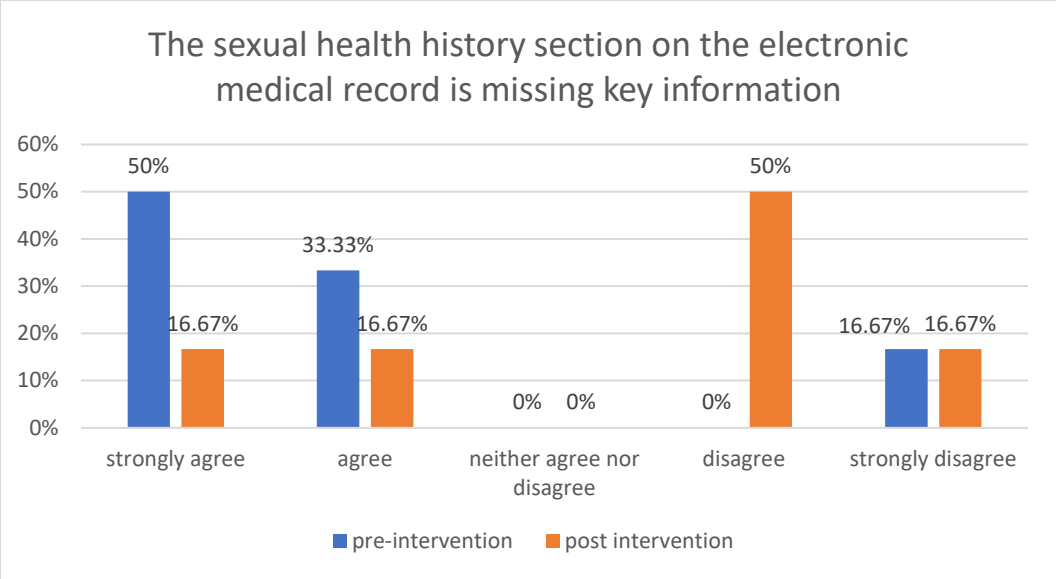

Figure 3: Results from Likert scale survey question 2

In figure 3, it is evident that 50% of providers strongly agreed that the sexual health history template before the intervention was missing key information, while only 20% of providers strongly agreed that the sexual health history template was missing key information post-intervention.

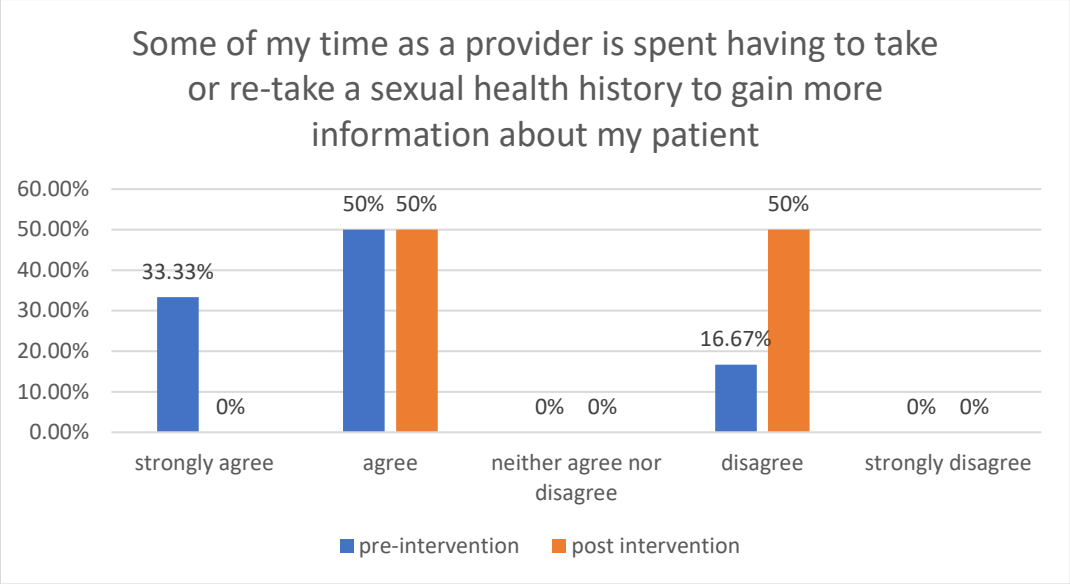

Figure 4: Results from Likert scale survey question 3

When asked if providers were having to re-take sexual health information from their patients after the initial intake, 83.33% of providers agreed to some degree that they had to before the intervention. After the implementation of the new sexual health template, 50% of providers agreed they had to obtain more information after the initial intake.

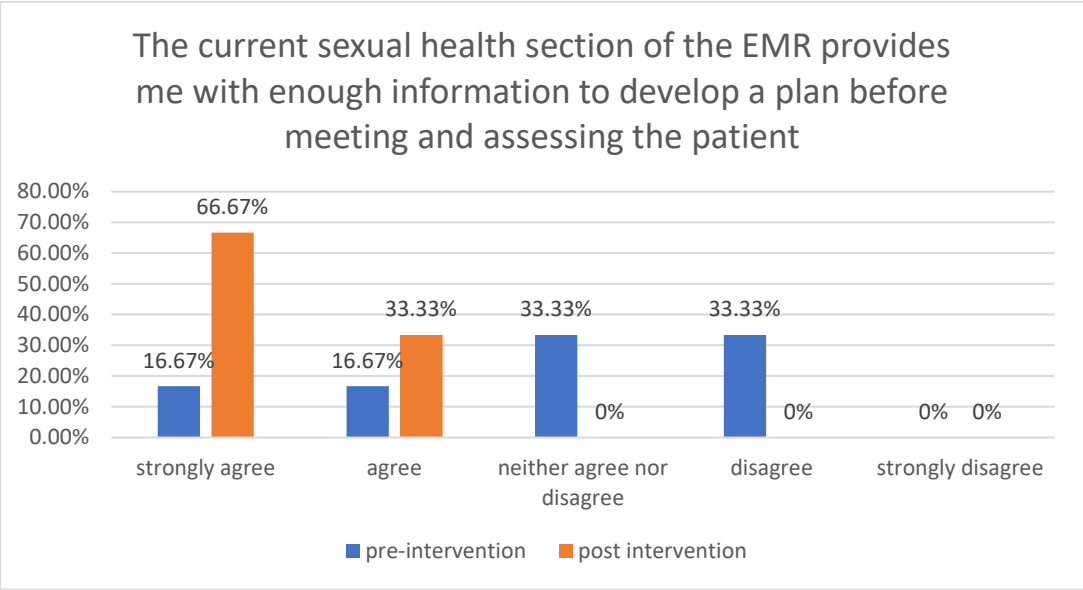

Figure 5: Results from Likert scale survey question 4

As seen in figure 5, before the intervention, 33.34% of the providers agreed to some degree that the sexual health template provided them with enough information to develop a plan before meeting their patients. After the new sexual health template was implemented, 100% of the providers agreed to some degree that the template allowed them to develop a plan before meeting their patients.

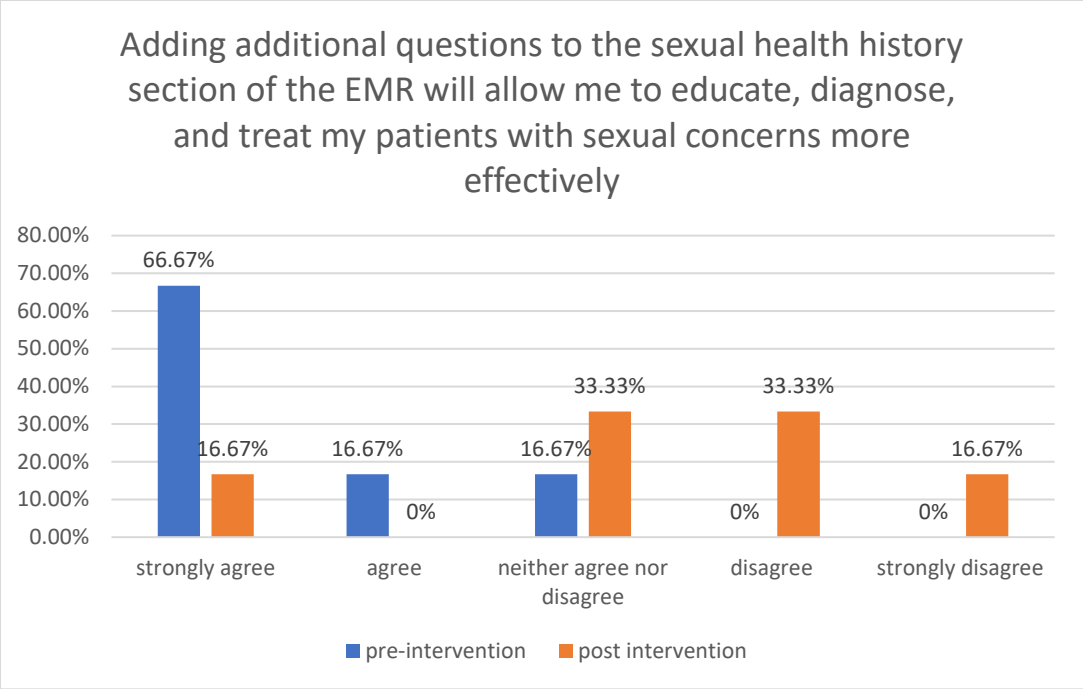

Figure 6: Results from Likert scale survey question 5

Finally, figure 6 indicates that when asked if adding additional questions to the sexual health template of the EMR would benefit their practice as a provider before the intervention, 83.34% agreed to some degree that adding the questions would help educate, diagnose, and treat their patients more effectively. After the implementation of the standardized protocol, 16.67% of the providers agreed that adding additional questions to the sexual history template would help them educate, diagnose, and treat their patients more effectively.

Strengths and Barriers

A barrier that was encountered but also expected was following the originally planned timeline of events. The planning phase involved developing a timeline of events however, this timeline quickly became delayed as tasks were taking longer than originally intended. IRB approval took several weeks longer than initially anticipated, delaying the entire project. The

timeline was adjusted to allow for the delay, allowing the project to proceed. Another barrier to this project was that the sample size included only six providers at the clinic. Although eight providers were asked to participate in the project, responses were only obtained from six providers before and after the intervention. Considering the providers remained anonymous, there was no way of knowing if the six providers who answered the survey before the intervention were the same providers who answered the survey after the intervention.

Discussion

The purpose of this DNP project was to initiate a standardized sexual health history protocol at a college health center so providers could obtain a thorough sexual history on patients with related concerns. Gaining provider insight before and after initiating the protocol was useful in determining if the protocol was beneficial to their practice. There was evidence before and after the initiation of the protocol that providers referred to the sexual health history section of the EMR frequently. This indicated that this was a vital component of the EMR that providers relied upon. Half of the providers strongly agreed that before the intervention, the sexual health template was missing key information that was being omitted during the patient's intake. After the intervention, only 20% of the providers strongly agreed that this template was missing key information. This result indicates that providers feel the new sexual health template was more thorough. Although the new template did contain additional questions that would help medical staff obtain a more thorough sexual health history during intake, after the intervention, 50% of the providers still felt that they had to obtain additional information. This is lower than the pre-intervention survey results, which indicated 83.33% of providers agreed to need additional information, but it indicates the new template is not perfect. Additionally, after the protocol was initiated, 16.67% of providers felt that additional questions should still be added to the EMR for

them to effectively provide education, diagnose, and treat patients. This is less than the pre-intervention statistic that showed 83.33% of providers agreeing to some degree that additional questions were needed. A significant finding was that 100% of providers agreed to some degree that after the intervention, they were provided with enough information to develop a plan before entering the patient's room. This was higher than the 33.34% of providers who felt the same way before the protocol was initiated.

The results indicate that although there is some work to still be done on the facility's sexual health template, the changes that were made were beneficial according to the providers. The importance of a comprehensive sexual health history extends beyond the fact that providers can treat and manage sexually transmitted infections more thoroughly. A comprehensive sexual health history protocol allows for the same questions to be asked every time, allowing medical professionals to become more comfortable asking these questions (Sheddan & Wood, 2020). In addition, informing patients that these questions are standardized and asked to every patient will allow the patient to feel more comfortable answering the questions (Liddon et al., 2022). Reducing the barriers that exist during sexual health history intake can allow for more information to be obtained so that providers can treat these patients more effectively.

Act

The last stage of the PDSA framework is "act". The investigator in this stage will consider the results of the project and determine what steps need to be taken in the future to either maintain a positive result or improve a negative result (Chen et al., 2021).

Recommendations for Future Practice

The results of the project indicated that although the new sexual health template helped

improve the practice of obtaining a sexual health history, some providers still agreed additional changes would benefit the practice further. An additional step that could be taken in the future would be to continuously provide education to the medical assistants of the clinic so they stay up to date on the newest data available for obtaining sexual histories. Additionally, if the medical assistants are provided with continuous education, they can ask questions, practice scenarios, and receive guidance about how to take a more effective history. This will hopefully allow them to become more comfortable when interviewing their patients. Another way of improving this practice would be to meet with the providers of the clinic again and allow them to provide suggestions to improve the sexual health template of the EMR. Although the template was based on the CDC's guide, the providers have insight into information that is still not being conveyed even though the medical assistants are following the protocol. Making these additional changes can help the providers of the clinic educate, diagnose, and treat their patients with sexual concerns more effectively.

Conclusion

The quality improvement project focused on the improvement of an existing EMR template. A problem existed in which providers of the student health clinic were consistently having to reinterview patients to obtain a more complete sexual health history. With the addition of this template, the results indicated that the new template did improve the practice of obtaining sexual health histories. Although the sample size was small, the majority of the providers included felt that the protocol provided them with more information to develop a better plan before meeting the patient. The project's results will be disseminated to the stakeholders via a presentation sent via email and they will be asked to provide recommendations on how to further improve this template. Future adjustments to this template will be necessary to continue to

improve the clinic's practice and necessary education to participating ancillary staff will be recommended to stakeholders. Going forward, continued use of this protocol during every visit will allow the clinic to provide the best care possible for every patient with sexual health issues.

Using a standardized sexual health history protocol at a student health clinic can maximize the amount of information obtained about a patient's sexual health. It is easy to follow, thorough, and can provide the same information each time it is used. Providers can use information from this protocol to develop a distinguished, effective, and individualized plan for every patient, every time.

Appendix A

Likert Scale pre-intervention

1. **I refer to the sexual health history section of the electronic medical record frequently**

Strongly disagree disagree neutral agree strongly agree

2. **The sexual health history section on the electronic medical record is missing key information**

Strongly disagree disagree neutral agree strongly agree

3. **Some of my time as a provider is spent having to take or re-take a sexual health history to gain more information about my patient**

Strongly disagree disagree neutral agree strongly agree

4. **The current sexual health section of the EMR provides me with enough information to develop a plan before meeting and assessing the patient**

Strongly disagree disagree neutral agree strongly agree

5. **Adding additional questions to the sexual health history section of the EMR will allow me to educate, diagnose, and treat my patients with sexual concerns more effectively**

Strongly disagree disagree neutral agree strongly agree

Likert scale post-intervention:

Please base your answers to these questions on the new sexual health template applied to the clinic's EMR over the past month:

1. **I refer to the sexual health history section of the electronic medical record frequently**

Strongly disagree disagree neutral agree strongly agree

2. **The sexual health history section on the electronic medical record is missing key information**

Strongly disagree disagree neutral agree strongly agree

3. **Some of my time as a provider is spent having to take or re-take a sexual health history to gain more information about my patient**

Strongly disagree disagree neutral agree strongly agree

4. **The current sexual health section of the EMR provides me with enough information to develop a plan before meeting and assessing the patient**

Strongly disagree disagree neutral agree strongly agree

5. **Adding additional questions to the sexual health history section of the EMR will allow me to educate, diagnose, and treat my patients with sexual concerns more effectively**

Strongly disagree disagree neutral agree strongly agree

References

Agwu, A. (2020). Sexuality, sexual health, and sexually transmitted infections in adolescents and young adults. *Topics in Antiviral Medicine, 28*(2), 459-462. PMCID: PMC7482983

Barrow, R., Ahmed, F., Bolan, G., Workowski, K. (2020). Recommendations for providing quality sexually transmitted diseases clinical services, 2020. *MMWR, 68*(5), 2-20. http://dx.doi.org/10.15585/mmwr.rr6805a1external icon

Behzadi, P., Behzadi, E., Pawlak-Adamska, E. (2019). Urinary tract infections or genital tract infections? It's the diagnostics that count. *GMS Hygiene and Infection Control, 14*(1), 1-12. doi: 10.3205/dgkh000320

Brookmeyer, K., Coor, A., Kachur, R., Beltran, O., Reno, H., Dittus, P. (2021). Sexual history taking in clinical settings: a narrative review. *Sexually Transmitted Diseases, 48*(6), 393-402. doi: 10.1097/OLQ.0000000000001319

Burnes, B. (2019). The origins of Lewin's three-step model of change. *The Journal of Applied Behavioral Science, 56*(1), 32-59. https://doi.org/10.1177/00218863198926.

Centers for Disease Control and Prevention (2020). STD testing: Information for parents of adolescents. Retrieved from https://www.cdc.gov/healthyyouth/healthservices/infobriefs/std_testing_information.htm#:~:text=Half%20of%20all%20new%20STDs,or%20human%20papillomavirus%20(HPV).&text=Many%20young%20people%20do%20not,STDs%20often%20have%20no%20symptoms.

Centers for Disease Control and Prevention (2021). 1 in 5 people in the U.S. have a sexually

transmitted infection. Retrieved from https://www.cdc.gov/nchhstp/newsroom/2021/2018-STI-incidence-prevalence-estimates.html

Centers for Disease Control and Prevention (2022a). A guide to taking a sexual history. Retrieved from: https://www.cdc.gov/std/treatment/sexualhistory.htm#references

Centers for Disease Control and Prevention (2022b). Incidence, prevalence, and cost of sexually transmitted infections in the United States. Retrieved from https://www.cdc.gov/nchhstp/newsroom/fact-sheets/std/STI-Incidence-Prevalence-Cost-Factsheet.html#:~:text=CDC's%20latest%20estimates%20indicate%20that,in%20direct%20medical%20costs%20alone.

Chen, Y., Vanderlaan, P., Heher, Y. (2021). Using the model for improvement and plan-do-study-act to effect SMART change and advance quality. *Cancer Cytopathology, 128*(1), 9-14.

Hegde, D., Sreedaran, P., Pradeep, J. (2018). Challenges in taking sexual history: a qualitative study of Indian postgraduate psychiatry trainees. *Indian Journal of Psychological Medicine, 40*(4), 356-363. doi: 10.4103/IJPSYM.IJPSYM_64_18

Henderson, J., Senger, C., Henninger, M. (2020). Behavioral counseling interventions to prevent sexually transmitted infections: Updated evidence report and systematic review for the US preventive services task force. *JAMA, 324*(7), 682-699. doi:10.1001/jama.2020.10371

Hussain, S., Lei, S., Akram, T., Haider, M., Hussain, S., Ali, M. (2018). Kurt Lewin's change model: A critical review of the role of leadership and employee involvement in organizational change. *Journal of Innovation and Knowledge, 3*(3), 123-127.

https://doi.org/10.1016/j.jik.2016.07.002

Kingsberg, S., Schaffir, J., Faught, B., Pinkerton, J., Parish, S., Iglesia, C., Gudeman, J., Krop, J., Simon, J. (2019). Female sexual health: barriers to optimal outcomes and a roadmap for improved patient-clinician communications. *Journal of Women's Health, 28*(4), 432-443. https://doi.org/10.1089/jwh.2018.7352

Liddon, N., Pampati, S., Steiner, R., Hensel, D., Fu, T., Beckmeyer, J., Herbenick, D. (2020). Truth be told: adolescent's disclosure of sexual activity to healthcare providers. *Journal of Adolescent health, 68*(3), 623-625. doi:10.1016/j.jadohealth.2020.07.005.

Palaiodimos, L., Herman, H., Wood, E., Karamanis, D., Martinez-Rodriguez, C., Sanchez-Lopez, A., Ruderman, E., Jang, M., Fischer, D., Huang, H., Gadde, U., Leider, J. (2020). Practices and barriers in sexual history taking: a cross-sectional study in a public adult primary care clinic. The Journal of Sexual Medicine, 17(8), 1509-1519. https://doi.org/10.1016/j.jsxm.2020.05.004

Pretorius, D., Couper, I., Mlambo, M. (2021). Sexual history taking: Perspectives on doctor-patient interactions during routine consultations in rural primary care in South Africa. *Sexual Medicine, 9*(4), 100389. DOI:https://doi.org/10.1016/j.esxm.2021.100389

Rubin, E., Rullo, J., Tsai, P., Criniti, S., Elders, J., Thielen, J., Parish, S. (2018). Best practices in North American pre-clinical medical education in sexual history taking: Consensus from the summits in medical education in sexual health. *The Journal of Sexual Medicine, 15*(10), 1414-1425. DOI:10.1016/j.jsxm.2018.08.008

Ryan, K., Arbuckle-Bernstein, V., Smith, G., Phillips, J. (2018). Let's talk about sex: A survey of patients' preferences when addressing sexual health concerns in a family medicine

residency program office. *Primer, 2*(23), 1-6. DOI: 10.22454/PRiMER.2018.728252

Savoy, M., O'Gurek, D., Brown-James, A. (2020). Sexual health history: Techniques and tips. *American Family Physician, 101*(5), 286-293. PMID: 32109033

Shannon, C., Klausner, J. (2018). The growing epidemic of sexually transmitted infections in adolescents: A neglected population. *Curr Opin Pediatr., 30*(1), 137-143. doi: 10.1097/MOP.0000000000000578

Sheddan, A., Wood, F. (2021). Use of an evidence-based teaching strategy to improve sexual health assessment among nurse practitioners in the retail health environment. *The Journal for Nurse Practitioners, 17*(2), 222-224. DOI:10.1016/j.nurpra.2020.11.012

Taherdoost, H. (2019). What is the best response scale for survey and questionnaire design: Review of different lengths of rating scale/attitude scale/ likert scale. *International Journal of Academic Research in Management, 8*(1), 1-10. ISSN: 2296-1747

Weinstock, H., Kreisel, K., Spicknall, I., Chesson, H., Miller, W. (2021). STI prevalence, incidence, and costs in the United States: new estimates, new approach. *Sexually Transmitted Diseases, 48*(4), 207. doi: 10.1097/OLQ.0000000000001368

World Health Organization (2019). Four curable sexually transmitted infections you need to know. Retrieved from https://www.who.int/news-room/feature-stories/detail/four-curable-sexually-transmitted-infections---all-you-need-to-know