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A Strategy for Increasing Syphilis Screening in High-Risk Men and Women

Zillah Mulubisha

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Zillah Mulubisha, RN, AGNP

University of North Dakota

This DNP Project paper, submitted by Zillah Mulubisha in partial fulfillment of the requirements for the Degree of Doctor of Nursing Practice from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

Joanna D Sikkema, DNP, ANP-BC, FAHA, FPCNA
Clinical Assistant Professor
College of Nursing and Professional Disciplines

This DNP Project paper is being submitted by the appointed advisory committee as having met all of the requirements of the University of North Dakota and is hereby approved.

Diana Kostrzewski, PhD, RN
Dean, College of Nursing and Professional Disciplines

PERMISSION

Title: A Strategy for Increasing Syphilis Screening in High-Risk Men and Women

Department: College of Nursing

Degree: Doctor of Nursing Practice

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Name Zillun Mulbishan

Date 7/12/19

Zillun Mulbishan

Abstract

Background: Syphilis cases among both men and women in Minnesota have been increasing over the past ten years. Currently, there are recommended screening practices for early detection and treatment of syphilis, however they are required only in pregnancy to prevent the devastating consequences of congenital syphilis. This DNP project was designed to evaluate the effectiveness of an educational program and screening reminders to promote increased syphilis screening practices among, ARNP primary health care providers in two community clinics for high risk men and women.

Objective: The purpose of this DNP project was to increase syphilis screening-rates of high-risk men and women within two family practice clinics by 10% at the end of a 3 months period.

Methodology: A quasi-experimental study design was utilized. All ARNP health care providers working at two primary care clinics were invited to participate in the project. Participants completed a pretest evaluating their knowledge base of the occurrence, incidence, and screening of syphilis. Participants then attended a 30-minute power point presentation on syphilis. A posttest was sent out 6 weeks after the presentation. The project also included visual exam room reminders to screen for syphilis.

Results: Twelve nurse practitioners working (full or part-time) in the two primary care clinics participated in the project. Data revealed that only 41.7% of the providers screened for syphilis during the annual physicals of both men and women. The number of providers that asked for patient's sexuality went up from two to six out of the total twelve providers.

Conclusions: The data was inconclusive as to whether there was an increase in syphilis screening after the educational programming. The changes observed in practice from the data

collected were not statistically significant and it is presumed that a longer post intervention data collection could potentially produce a significant increase in the screening.

Problem Statement

Health screening practices have long been associated with the early detection of infectious disease. Like many other states, Minnesota supports and encourages screening for sexually transmitted diseases (STD) as a public health strategy. Recent state data supports the existence and steady increase in the incidence of syphilis, an STD found in Minnesota among high–risk men and women (Minnesota Department of Health, 2017).

The national statistics from the Center of Disease Control and Prevention (CDC) report a consistent rise of syphilis diagnosis of approximately 60% over the past 10 years. The incidence in 2017 was reported as 9.5 per 100,000 population. When this is compared to 2016 data (CDC, 2018), it reflects a 10.5 percentage increase. This increasing trend indicates a community health problem that requires a new plan for disease management. Furthermore, the CDC data reflects that the rise in syphilis between 2000 and 2016 was observed primarily in high-risk men and accounted for 90% of the cases nationwide. The data also supports the argument that congenial problems related to syphilis have increased (CDC, 2017).

Although there are current interventions to manage the spread of syphilis, it has continued to impact the population. The authors: de Voux, Kidd, Grey, Rosenberg, Gift, Weinstockq, and Weinstock (2017) reported cases of primary and secondary syphilis at a rate of 7.5 cases per 100, 000 population in 2015. This is four times higher than the rate in 2000. De Voux et al. (2017) added that 81.7% of these cases were found to be among high-risk men. This article also identified women who were within their reproductive ages being impacted by these increasing numbers, resulting in increasing rates of syphilis related congenital defects.

Minnesota statistics differ very little from the national data. The Minnesota Department of Health (MDH) (2017) reports an increase in syphilis cases of 30% from 2015 to 2016 and an additional 10% from 2016 to 2017. MDH data (2016) states that 77% of syphilis cases are now

among gay and bisexual men. The cases for women have also increased, matching previous rates that had been experienced in the 19th century (MDH, 2017). This supports previously reported data of the increased risk for syphilis within the high-risk population. Peterman, Su, Bernstein, and Weinstock (2015) explain that although syphilis incidence and rates vary by population sub-groups, a report published in 2013 showed that high-risk men have higher rates of primary and secondary syphilis at 228.8 per 100, 000 population. This is compared to women whose rates of primary and secondary syphilis were 0.9 per 100,000 population in 2013. Identifying a strategy to manage this increasing trend of syphilis among high-risk populations, can reduce the disease incidences and promote sexual health among at-risk populations.

The Minnesota Health Department (MHD) lists syphilis as a public health problem due to the growth in reported cases. Screening has been considered a preventive measure that can promote awareness and reduce incidences in a larger population. The spread of syphilis can be reduced if detected early and medical treatment is initiated in a timely manner (CDC, 2017 April).

Early screening by health care providers is encouraged at the time of a patient's annual health care visit. However, the CDC (2017, April) reports that risky behaviors as well as the availability of preventative medications for human immunodeficiency virus (HIV), such as Truvada (Emtricitabine/Tenofovir) has increased the rate of risky sexual practices. Hence, more high-risk populations are having sex without condoms with the perception that syphilis is treatable.

Theoretical Foundation

This DNP project utilized the Health Promotion Model by Nola Pender as a framework to analyze current disease process affecting a population. The purpose of the Model is to assimilate

character, behaviors, and outcomes towards healthy practices. In relation to this DNP project, increasing screening during annual visits would create a standard for the ARNP health care providers to ensure that screenings are routinely completed. Providers should address a patient's sexuality and provide education on current concerns of STDs to increase positive behaviors towards utilizing safe sexual practices.

The Pender model addresses three concepts: (1) individual characteristics, (2) behavior specific, and (3) behavior outcomes. Individual characteristics are prior behaviors and personal factors. Prior behaviors include their sexual partners or having multiple partners at one time, while personal factors include choices such as not using condoms. Behavior specific concepts incorporates perceived barriers, benefits to the behaviors, or influences. Peer pressure can play a role in some behaviors and influence negative characteristics such as practicing risky sexual acts.

Given that syphilis is treatable, the need to practice safe sexual behaviors may not seem important to certain portions of the population. The concept of behavioral outcomes implies that patients who have faced a health crisis related to a STD are more likely to incorporate safe sexual practices. Moreover, reinforcement from a clinical provider may help them understand the importance of routine health screening and early identification of the disease process.

In addition, the increasing incidence of syphilis is a health problem that can affect an entire population. Screening is a health promotion intervention that is aimed at supporting early detection and treatment of the disease. In this DNP project, screening is a positive practice towards reducing the incidences of syphilis infection. Moreover, reducing syphilis incidences will lead to positive behavioral outcomes, embodying the nursing theory of health promotion.

Background

According to CDC (2017, April), syphilis is an STD that can cause serious health problems if not promptly treated. Minnesota Department of Health defines syphilis as a serious STD caused by the bacteria Treponema pallidum, which can cause damage to multiple organs including the nervous system if not treated early. CDC (2017, April) emphasizes early identification and treatment of syphilis is important because once damage to any part of the body has occurred, it is irreversible or permanent.

The disease process is said to be divided into four stages: primary, secondary, latent, and tertiary. In its primary stage, the disease will cause a patient to develop a painless sore at the original site of infection, such as around the genitals, anus, or rectum (CDC, 2017 June). The infection does not cause discomfort which increases the risk of progression of the disease process due to the lack of early diagnosis and/or treatment of the disease.

In the secondary stage of the disease, a patient can develop a generalized skin rash, fever, and swollen lymph nodes (CDC, 2017 June). The latent stage does not seem to have any symptoms. However, the disease has progressed and may have started damaging internal organs (CDC, 2017 June). The final stage is tertiary, which is associated with multiple irreversible organ problems, such as heart, brain, or liver failure (CDC, 2017 June). The data indicate that syphilis can also spread from mother to unborn child and cause congenital problems such as meningitis, deafness, central nervous system deformity, blindness among others (CDC, 2017 June). Clearly, the health risks of untreated syphilis are severe.

Understanding the symptoms as well as initiating early intervention and treatment can reduce the risks associated with the disease progress. Syphilis is curable when treated early before organ damage has occurred. Encouraging people who are sexually active with multiple

partners to seek medical care when they notice any unusual skin changes is necessary to diagnose and treat the disease at its early stage. The infection can be cured using antibiotics. The drug-of-choice has been the long-lasting, intramuscular injectable Benzathine penicillin G (CDC, 2016 July). The treatment guidelines further state that the length of treatment depends on the stage of the disease process (CDC, 2016 July).

Clinical Impact

The incidences of syphilis as earlier identified, continues to be trending upward, thus impacting the high-risk population. MDH (2017) data showed 3.6 per 100,000 population in 2006 and a startling 16.1 per 100,000 population in 2016. This represents 347.2% increase in the incidence of syphilis, which is drastic and was unexpected in the health community. Primary and secondary syphilis rates increased from 0.9 to 5.8 per 100,000 population (an increase of 544.4%) between the years of 2006 to 2016 (MDH, 2017). The incidences are observed in various stages of the disease process. Early latent stage was reported to be 1.1 and rose to 4.7 per 100,000 population (an increase of 327.3) within the same period of 2006 to 2016. If appropriate prevention plans and assessment tools are not initiated, then the above trends are expected to continue.

Some research has shown that lack of concern from the patient because of the changes in their symptoms would likely hinder screening or follow up by the patient. According to Tuite, Fisman, and Mishra, (2013) syphilis can be asymptomatic, and this makes it difficult for people to seek medical treatment. For instance, if a patient has a rash that is resolved without treatment, they will more than likely not follow up or seek further treatment.

Misdiagnosis of syphilis by providers within the primary care setting also enables the disease to progress further causing irreversible damage to body organs. The authors: Petrosky,

Neblett Fanfair, Toevs, et al. (2016) reported that misdiagnoses occurred in primary care practices where the diagnosis of herpes simplex virus or chancroid were being made instead of primary syphilis. Furthermore, Petrosky et al. (2016) adds that other misdiagnosis included eczema, scabies, contacts dermatitis instead of secondary syphilis. Understanding the differences in the disease presentation and increasing the ARNP providers knowledge in relation to relevant patient assessment would more likely facilitate an appropriate diagnosis of syphilis.

Screening for syphilis can facilitate proper diagnosis and recommended treatment or follow up. Petrosky et al. (2016) also reported that providers in various clinic settings did not routinely screen for syphilis. The importance of having regular STD screenings could identify cases and reduce the incidences by providing treatment and prevent continual exposure and transmission.

Furthermore, Petrosky et al. (2016) add that some providers fail to include HIV or STD teaching and counselling during regular health visits. This missed opportunity for early screening can lead to an increased risk for exposure. In addition, Petrosky et al. (2016) reports that STD's reoccur in the at-risk populations, hence providing education and screening on all STD's would be beneficial.

Increasing knowledge within the high-risk population on the current incidences of syphilis with the co-infection of human immunodeficiency virus (HIV) can enable early screening. The at-risk population would be more aware of the risks and request screening if not completed during routine health visits. Research has indicated that high risk populations who have HIV are more likely to have syphilis, and this diagnosis is often missed due to the lower screening rates for syphilis, reported by German, Flynn, Linton, Blythe, Cooley, and Oster (2015).

Routine screening for high-risk populations with HIV and syphilis should be highly considered as evidence of early detection of syphilis. Irreversible damage that can occur from untreated syphilis can cause loss of function. The loss of functionality and ability to participate in the community can lead to a loss of income for the individual or families. Nevertheless, education will be a priority for APRN providers to routinely screen high risk populations.

Consequences

According to Tuite, Fisman, and Mishra (2013), syphilis can be challenging to control - due to the vagueness or asymptomatic pattern of the diseases. Without active symptoms, individuals tend to delay seeking medical care or treatment, which has dire consequences on their general health due to disease progression. Research indicates that late detection and treatment of the disease can lead to ocular, auditory, and neurological complications (Tuite, Fisman, & Mishra, 2013). Once permanent damage has occurred to any organ, it is irreversible, hence the overall health of the patient would deteriorate.

These complications can be difficult to manage and substantially increase the cost of the patient's health care. CDC (2013) asserts "CDC conservatively estimates that the lifetime cost of treating eight of the most common STIs contracted in just one year is $15.8 billion" (p 4). Due to the length of time required to manage advanced stages of syphilis, the overall financial costs could be high.

Literature Review

A literature search was conducted through the University of North Dakota library site, using PubMed and CINAHL for review of the database. Data sources included peer reviewed journals, dissertation, magazines, and books. Search terms utilized were "syphilis", "high-risk population", "assessment and prevention of syphilis," which generated numerous articles. The

search was narrowed down to the last five years and restricted to peer-review articles, which reduced the number of articles to less than 100 on each of the above search words. The search terms were narrowed to "screening for syphilis and high risk" over the past five years, which generated 52 articles. At least 40 articles were excluded from the data base due to lack of enough evidence on screening regarding high-risk populations or lack of a full article to review. Approximately 12 articles were further reviewed, and eight articles applied towards the literature review of the problem identified. The data considered further supported the high incidences on high-risk population.

Incidence

High-risk populations are considered vulnerable related to their sexual preferences and risky practices. For instance, Allen, Mansergh, Mimiaga, Holman, & Herbst (2017) identified that the risk populations included minorities such as African Americans and Hispanics, which supported the theory that higher incident rates were among high-risk population. Allen et al. (2017) stated that the incidence of STIs were high among both men and women that seek sex via online methods such as computer chats or mobile phone texting.

Risky practices such as seeking partners online for sex purposes can increase one's exposure. Ferlatte, Salway, Samji, Dove, Gesink, Gilbert, and ... Wong (2018) indicated that the syphilis epidemic is concentrated among high-risk populations such as gays, bisexual, and men that have sex with men. The incidences of syphilis among women is gradually on the rise affecting various age groups and raising the incidence of congenital syphilis in unborn children.

Lack of Screening

As previously noted, a lack of screening can contribute to disease progression, chronic disease conditions, and permanent organ damage. Also, misdiagnosis was considered a problem

that occurs in primary care and health care provider education is a priority to address this problem. Scarborough, Slome, Hurley, and Park (2015) noted that screening every three months for the identified at risk populations would be a good practice. Incorporating education and increasing the frequency of screening to three months, six months, or twelve months are strategies that can be favorable towards targeting the at-risk populations. This would increase the probability of optimizing prevention and reducing the spread of syphilis.

Guidelines for Prevention

Implementing a plan on prevention for syphilis is essential towards positive health outcomes in managing sexually transmitted diseases. CDC (2017, April) reported that early diagnosis and treatment would reduce the occurrences, reinfection, and the spread of syphilis. The process could be beneficial in all settings of healthcare, such as the emergency room, urgent care centers and primary, or specialty care areas.

This DNP project focused on increasing awareness of ARNP (Advanced registered nurse practitioners) health care providers to the increasing trends of syphilis and the importance of initiating screening for high-risk populations. Cantor, Pappas, Daeges, and Nelson (2016) also recommended that the prevention of syphilis should utilize a team approach of healthcare workers at various points of the patient's care.

Project Purpose

The purpose of this DNP project was to increase ARNP primary health care provider awareness on the importance of early screening and treatment of syphilis in high risk men and women.

Goals and Objective

The goals for this project were to increase syphilis screening in primary care for high risk men and women.

Goal 1: Increase the number of ARNP primary health care providers within the Family Practice Department who are aware of a syphilis epidemic by 50% at the end of a 6 weeks period.

Objective 1: By March 20th, 2019, 50% of the ARNP health care providers in the Family Practice Department will have attended an educational session on syphilis occurrence, incidence, and screening and demonstrate an understanding of the national recommendations regarding syphilis screening.

Goal 2: Increasing syphilis screening-rates for high risk men and women by 10% at the end of a 3 months period in the Family Practice Department.

Objective 2: By May 2nd, 2019, the APRN providers that participated in the DNP project will have knowledge to identify high-risk populations and screen for syphilis.

Project Design

This project included both a timed variable and an educational intervention. The project utilized a quasi-experimental design.

Operational Definitions

High risk populations are defined as both men and women that practice risky sexual practices such as seeking sex online or via texting; having multiple partners; having HIV or recurrent STI infections.

ARNP health care providers are defined as advanced registered nurse practitioners working within the two selected primary care community clinics.

Screenings for syphilis is defined as ordering a rapid plasma reagin (RPR) screening and confirmatory RPR for all positive RPR tests completed. RPR screenings are ordered on all high-risk populations during either a regular or annual physical appointment.

Methodology

Project participants were invited to participate at a staff meeting in March 2019. A brief overview of the project purpose and goals was presented. Informed consent was obtained from all ARNP participants who agreed to be part of the project. A 14-question pretest regarding their knowledge of the occurrence, incidence, and screening practices of syphilis was completed. The participants then attended an educational program on the occurrence, incidences, diagnosis, and screening for syphilis. A 2 cm by 2 cm reminder note was attached to the corner of each computer screen in each clinic exam room as a reminder to screen for syphilis. The notes had a check mark and the letters RPR – which is the acronym for syphilis screening. The screening reminders were visible to the APRN providers during the clinic visit. Six weeks after the initial pretest and presentation on syphilis. The APRN providers were sent a 9-question posttest via inter office mail. The post test questions included content related to the occurrence, incidence, and screening of syphilis and data collection related to screening practices.

Additional de-identified data was reviewed from the infectious disease department of the healthcare system. The data reviewed included all RPR screenings that had been completed between the months of December 2018 to May 2019. This data was separated by gender (male /female) and pregnant or nonpregnant. The number of syphilis screenings (RPR) completed from December of 2018 through February of 2019 were compared to the number of syphilis screenings completed between March through May of 2019. The RPR screening data was incorporated to evaluate the effectiveness of the project and whether the project's goals were met to increase syphilis screening. The de-identified data were compared between the two time periods. A follow-up presentation to the ARNP healthcare provider participants at which time the

study findings were shared with the ARNP healthcare providers at project completion and further input and recommendations were discussed.

Inclusion and Exclusion Criteria

Study participants included APRN providers that work in the two community clinics selected for the pilot project. The clinic physicians did not participate in the study. Support staff such as medical assistants, laboratory technicians, registered nurses, front desk staff did not participate in the project.

Data Collection and Analysis

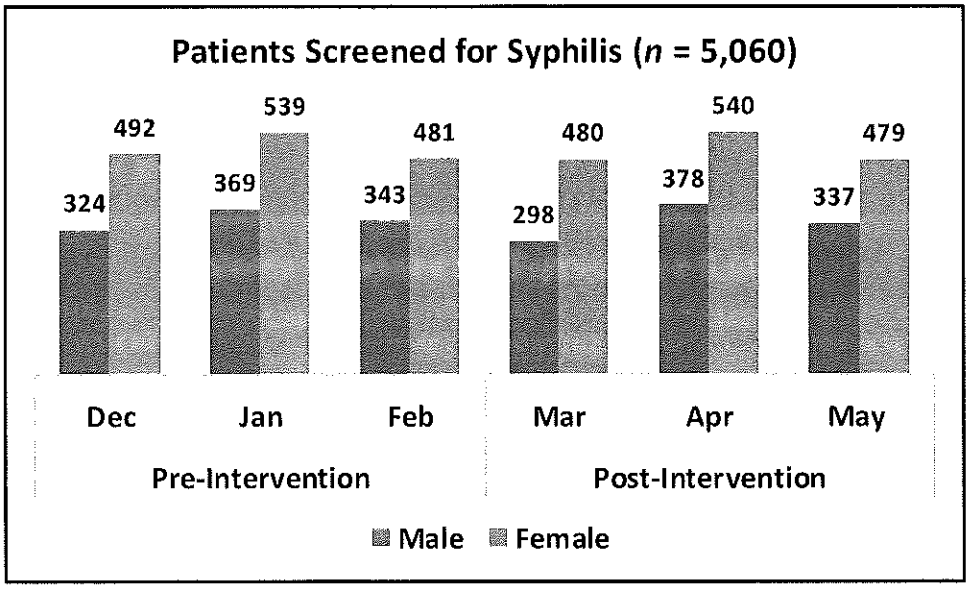
A 14 questions pre-test was given to the 12 ARNP health care providers. The purpose of the pretest was to identify their awareness and understanding of syphilis incidence and screening. This information was analyzed and re-evaluated by a 9 questions post-test sent to study participants 6 weeks post educational presentation.

Additional data was collected on RPR (a test for diagnosing syphilis) from the Infection Prevention Department, which identified the number of syphilis screenings completed three months prior to the initiation of the educational program (December, January, February) then three months after the educational program (March, April, May), for a total of 6 months of data. The number of positive cases were reviewed and compared to the total number of syphilis screenings completed. Data review included an analysis to identify whether an increase in the number of screenings resulted in an increase in identified cases of syphilis.

STUDY FINDINGS AND DATA REVIEW

The following graph indicates the number of males and females that were screened for syphilis. To determine if a change in the number of people screened varied substantially during

the respective time-periods of this study, the data were analyzed using chi-square goodness-of-fit tests characterized by gender.



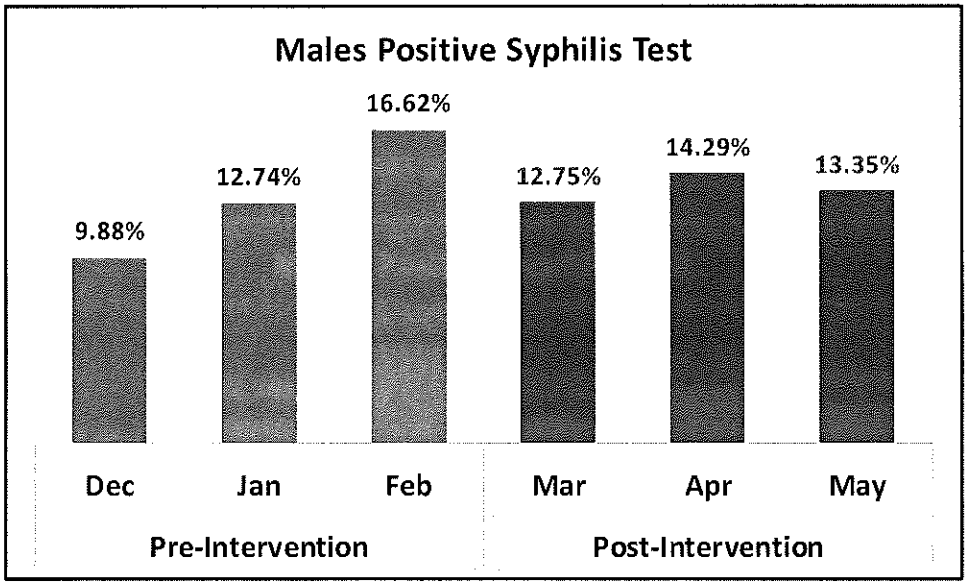
During the pre-intervention months of December 2018, January 2019, and February 2019, 1,036 males were screened for syphilis for which a statistically significant change did not exist, χ^2 (2, n = 1,036) = 2.956, p = 0.228; during the post-intervention months of March 2019, April 2019, and May 2019, 1,013 males were screened for syphilis for which a statistically significant change was detected, χ^2 (2, n = 1,013) = 9.479, p = 0.009.

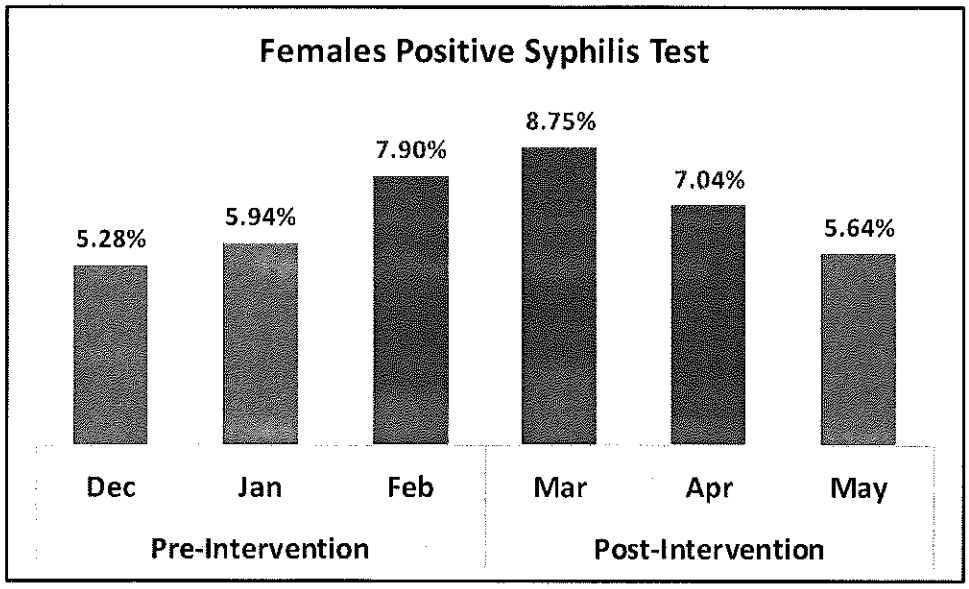
While the pre-intervention months of December 2018, January 2019, and February 2019, 1,512 females were screened for syphilis for which a statistically significant change did not exist, χ^2 (2, n = 1,512) = 3.766, p = 0.152; during the post-intervention months of March 2019, April 2019, and May 2019, 1,499 females were screened for syphilis for which a statistically significant change did not exist, χ^2 (2, n = 1,499) = 4.885, p = 0.087.

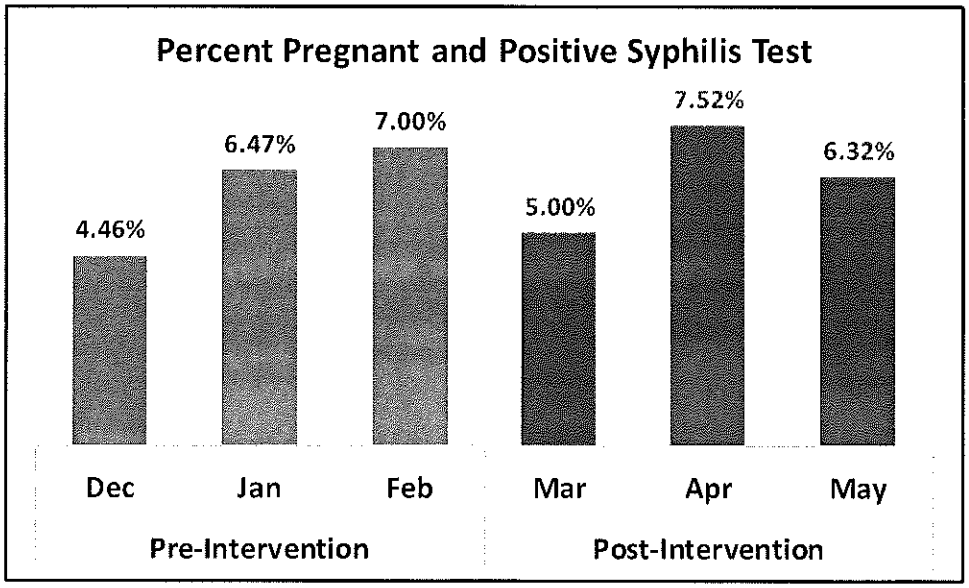
In the months of December 2018 through February 2019, a total 2,548 persons were screened for syphilis. Of the males who were screened, 136 tested positive for syphilis, while 96

of the females tested positive for syphilis. A comparison of the respective percentages of males and females who tested positive for syphilis was statistically significant result ($z = 5.929$, $p < .01$). An additional analysis of the 1,992 females in the data period (December to February), were tested for pregnancy of which 854 (42.87%) were pregnant, and 49 (5.74%) tested positive for syphilis.

Actual syphilis cases for men were more than women which creates a disparity within the two populations. Positive syphilis cases for men were 9.88% in December 2019 and varied through the months with a highest level of 16.62% as shown below. Female cases were 5.28% in the month of December 2018 and highest level was 7.90% which rose through the period of the project. As identified in the data, more women were screened than men, while men had higher syphilis cases than women; both genders have shown a steady increase in incidence.







Analysis of the pre and post survey results, identified statistically significant changes in clinical practice related to syphilis screening, assessment of sexual practices and knowledge of transmission.

	Responses	Pre	Post
4 and 2. With the yearly physical exam, how often do you screen for sexually-transmitted diseases?	< 50%	6	4
	> 50%	6	6
	Always	0	2

	Responses	Pre	Post
8 and 4. During a physical exam, would you ask for a patient's sexuality or practices?	No	10	6
	Yes	2	6

	Responses	Pre	Post
9 and 5. Within MN, do you consider syphilis an epidemic disease?	No	0	5
	Yes	5	7
	IDK	1	0
	NR	6	0

	Responses	Pre	Post
12 and 7. Can syphilis be contracted via oral and/or anal sex?	Anal Only	2	0
	Vaginal Only	8	6
	Oral, Anal, Vaginal	2	6

	Responses	Pre	Post
13 and 8. Which group of people do you believe that are at a high risk to contract syphilis?	M & W	5	5
	M & M	1	1
	Both	6	6

- For questions 4 and 2, an improvement was found in that 8 of the 12 respondents were "> 50%" or "Always" with respect to screening for STDs.
- For questions 8 and 4, the number of clinicians who would ask about a patient's sexuality or practices tripled from 2 to 6.
- For questions 9 and 5, the number of clinicians who consider syphilis to be an epidemic disease, increased from 5 to 7.
- For questions 12 and 7, the number of clinicians who indicated that syphilis can be contracted orally, anally, and vaginally triple from 2 to 6.
- For questions 13 and 8, the pre-survey and post-survey results did not show a difference.

Strengths

An educational program coupled with visual reminders in the exam rooms to the APRN health care providers demonstrated an increased awareness on the importance of including

syphilis screening in the health care of high-risk individuals during the annual physical examination. The project was completed at a work site which made data collection process easier due to existing work relationships with the APRNs. The 100% participation of the APRN staff working at the two community clinics increased the significance of the results of syphilis screening. As outlined in the study finding the number of APRNs who considered syphilis to be an epidemic increased which could provide incentive for increasing syphilis screening practices. At a follow up staff meeting, the review of the positive project findings were presented and APRN's are now asking about a patient's sexuality. This could potentially promote increasing syphilis screening in clinical practices. This educational program and project data will be shared with APRN's based in other departments within the healthcare system, who care for this high-risk population.

Limitations

Only twelve APRN health care providers worked within the two study clinic sites limiting the significance of the findings. This is contrasted to all APRNs within the healthcare system who could benefit from this knowledge. The study sample size was small thus the project findings are not generalizable to the population at large. The pilot project was limited to only two clinic sites within the healthcare system. There are at least five other community clinics and a specialty center which has the following clinics; women's health, endocrinology, addiction medicine, urology, pain, hematology among others, whose data was not reviewed thus further limiting the result findings. Furthermore, the project was limited to APRNs within the clinics and no physicians or physician assistants participated which may have impacted the number of RPR studies ordered for screening.

Opportunities for Further Study

The leadership team within the outpatient clinics and infectious disease department have indicated an interest in having this project expanded to other clinic sites due to the increasing trends in syphilis infections. Minnesota Health Department has some programs encouraging participation in syphilis screening by offering free screenings to all populations within the county at the "Red Door Clinic" which is open to the public Monday through Friday for screening of sexually transmitted diseases for free. An interactive discussion among the ARNP health care providers on the results provided alternate strategies and clinic protocols to further identify ways to increase syphilis screening.

Summary

The goals of this DNP project were partially met:

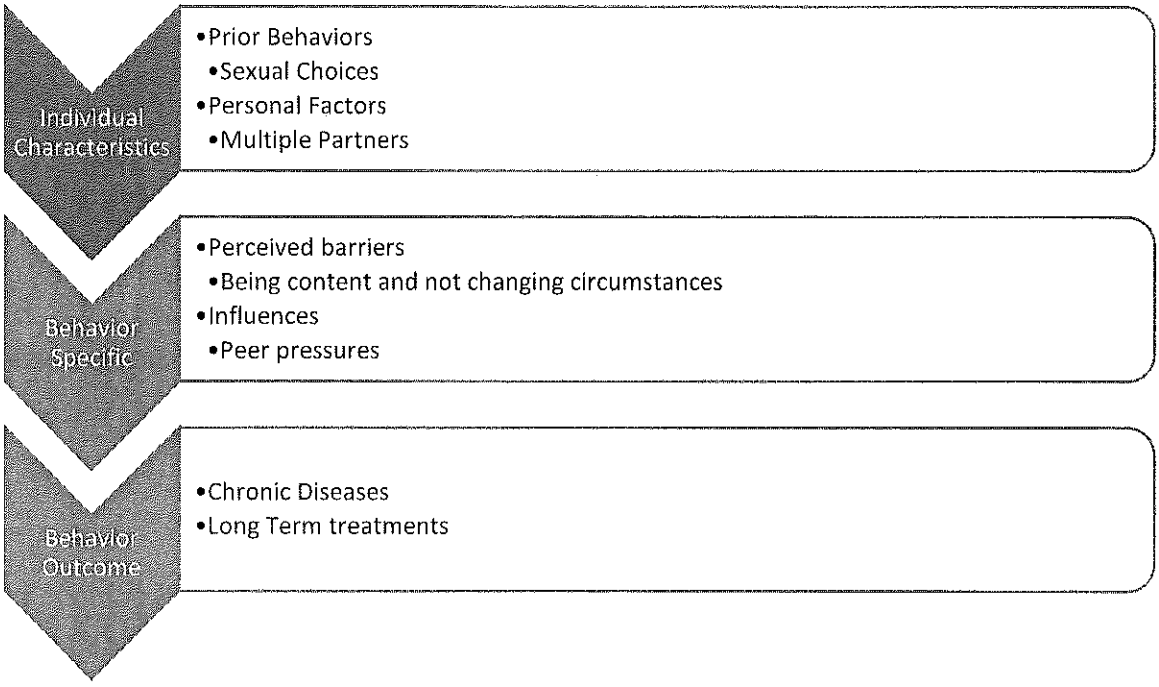
The first goal of increasing the number of APRN providers who were aware of the syphilis epidemic by 50% at the end of a 6-week period was partially met by an increase from five providers to seven.

The second goal of increasing syphilis screening rates by 10% at the end of a 3-month period was inconclusive. The data indicated a slight increase in both male and female screening during the month of April, then a decrease in the month of May. Thus the second goal was not met or achieved. The project facilitated an open discussion on syphilis cases and a community approach to increase syphilis screenings and reduce occurrences.

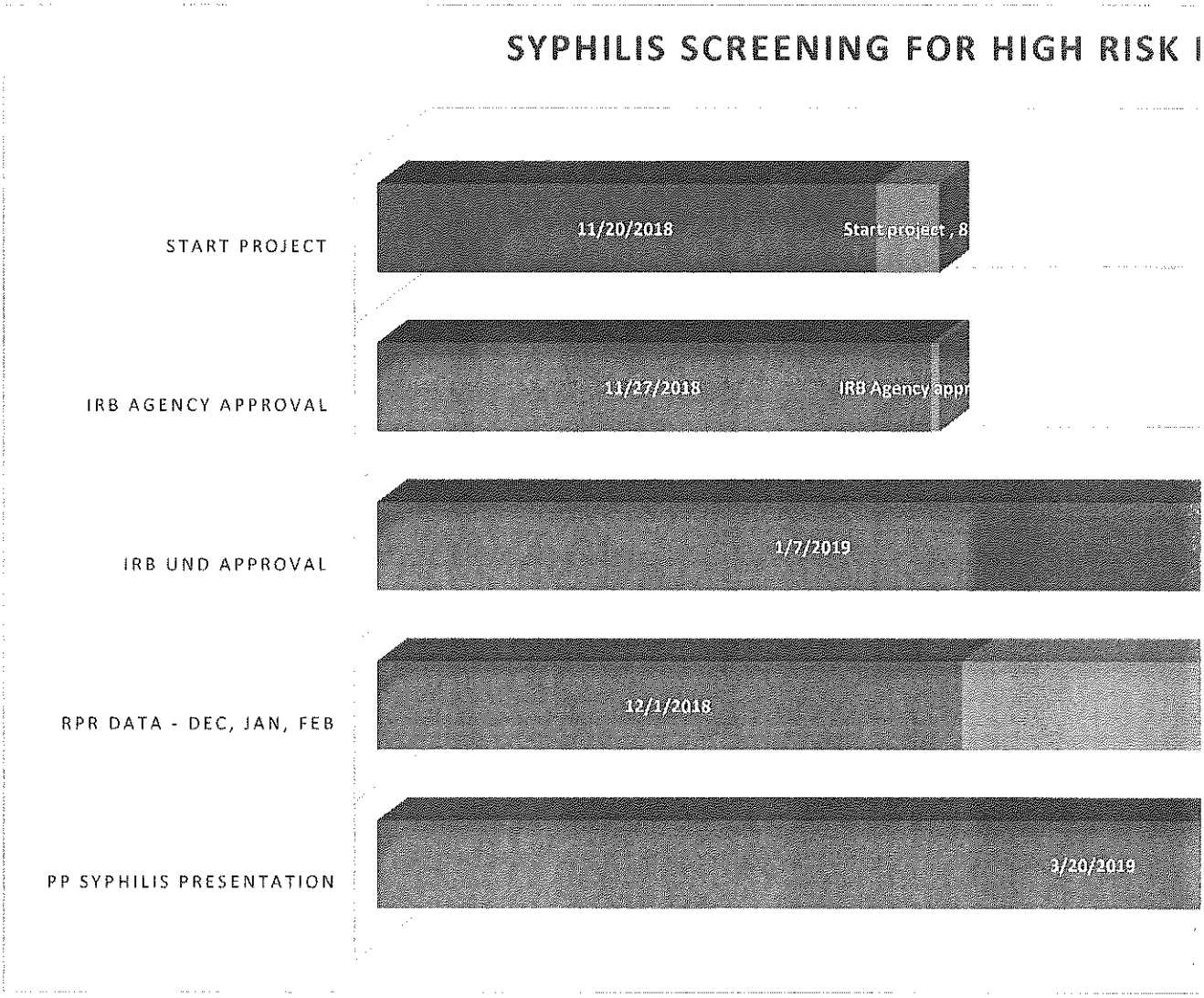
Appendix 1

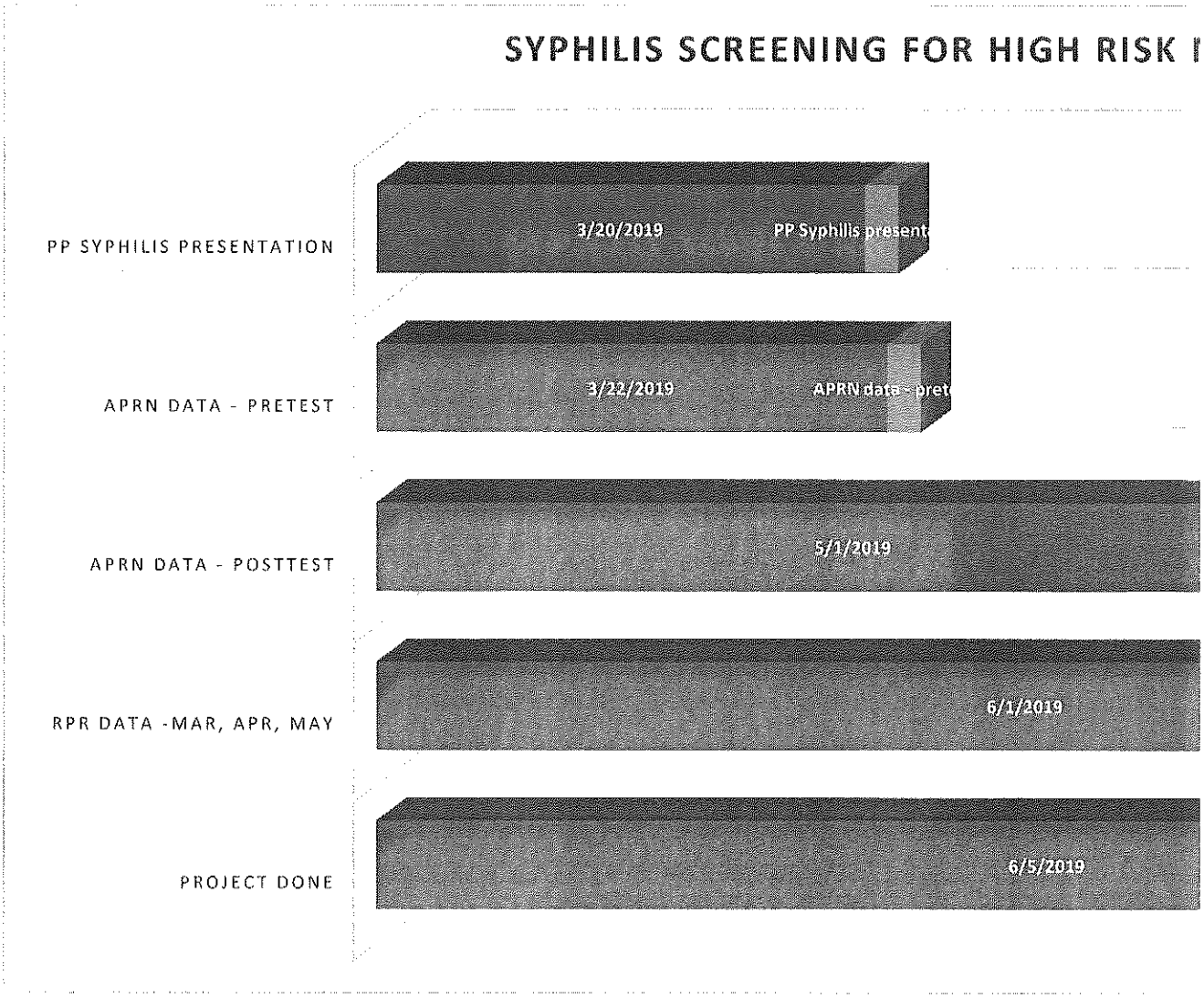
Theoretical Model

Health Promotion Model



Timeline


SYPHILIS SCREENING FOR HIGH RISK I
START PROJECT
11/20/2018
Start project , 8
IRB AGENCY APPROVAL
11/27/2018
IRB Agency appr
IRB UND APPROVAL
1/7/2019
RPR DATA - DEC, JAN, FEB
12/1/2018
PP SYPHILIS PRESENTATION
3/20/2019


SYPHILIS SCREENING FOR HIGH RISK I
PP SYPHILIS PRESENTATION
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PP Syphilis present
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APRN data - pret
APRN DATA - POSTTEST
5/1/2019
RPR DATA -MAR, APR, MAY
6/1/2019
PROJECT DONE
6/5/2019

Data Finding – syphilis screening and positive cases

Month	Number of Men Screened	Number of Men Positive Screenings and %	Number of Women Screened	Number of Women Positive Screenings and %
December	292	32 = 9.88%	492	26 = 5.28%
January	322	47 = 12.74%	539	32 = 5.94%
February	268	57 = 16.62%	481	38 = 7.90%
March	260	38 = 12.75%	480	42 = 8.75%
April	324	54 = 14.29%	540	37 = 7.04%
May	292	45 = 13.35%	452	27 = 5.64%

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