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THE USE OF SIMULATION TO PRACTICE PRE-EXPOSURE PROPHYLAXIS SEXUAL
HEALTH RISK SCREENING, MANAGEMENT, AND FOLLOW-UP WITHIN A DOCTOR
OF NURSING PRACTICE PROGRAM

by

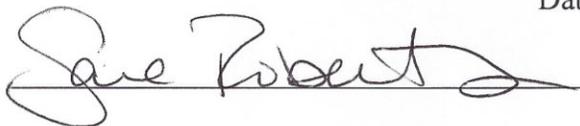
Skyler K. Frye

Paper submitted in partial fulfillment of the
requirements for the degree of

Doctor of Nursing Practice

University of Louisville
School of Nursing

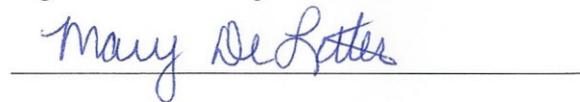
Date Finalized



Signature DNP Project Chair

8-26-19

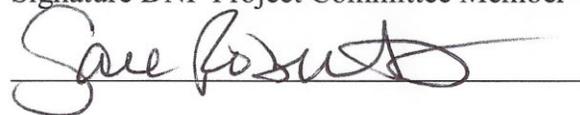
Date



Signature DNP Project Committee Member

8-26-19

Date



Signature Program Director

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Abstract

Introduction: Incidence and prevalence for human immunodeficiency virus (HIV) has yet to experience a significant decline. Increasing provider knowledge regarding use of Pre-Exposure Prophylaxis, an HIV prevention drug, correlates with increased provider risk screening & prescribing PrEP. Standardized patient (SP) simulation is an effective teaching method for healthcare students to increase knowledge and confidence in providing sexual healthcare.

Purpose: The purpose of this project was to evaluate an educational program aimed at increasing participant knowledge attainment and self-confidence in the ability to ascertain a sexual health history and advance the participant's ability to manage PrEP candidates in a primary care setting.

Intervention: Sixteen participants attended a didactic lecture based on CDC guidelines on the role of primary care in comprehensive sexual healthcare screening and HIV prevention and intervention using PrEP prescription. Lecture was followed by a standardized patient (SP) simulation in which participants applied didactic content to perform a patient risk assessment, comprehensive sexual health screening, and PrEP management and follow-up.

Results: Post-intervention total knowledge percent improved by 53%. Confidence in identifying PrEP candidates, eliciting a sexual health history, and synthesizing plans all improved post simulation. Participant responses reflected overall satisfaction and self-confidence in learning after conclusion of simulation.

Discussion: Implementation of a sexual healthcare screening and PrEP SP simulation is a successful adjunct to traditional didactic teaching to reinforce student knowledge and confidence.

Key words: human immunodeficiency virus; pre-exposure prophylaxis; standardized patient simulation; adult learner; prevention; primary care; sexual healthcare; knowledge; risk screening

The Use of Simulation to Practice Pre-Exposure Prophylaxis Sexual Health Risk Screening, Management, and Follow-up within a Doctor of Nursing Practice Program

After several years of decreased incidence of HIV, the rate of new HIV infections has plateaued, partly due to ineffectively reaching high-risk individuals with preventative measures (Centers for Disease Control and Prevention, 2019). The HIV preventative medication, PrEP, has low implementation nationwide as synthesized by the narrative review performed by Silapaswan et al. (2016). A minority of at-risk individuals who could benefit from PrEP are taking the medication due to a limited number of health care providers trained and confident in sexual health screening, along with prescribing and managing PrEP (Blumenthal et al., 2015). Addressing this barrier requires educating future primary care providers in this preventative health intervention.

Background of the Problem

In 2017, 38,739 individuals were newly infected with the human immunodeficiency virus (HIV), with approximately 1.1 million individuals 13 years or older living with HIV in the United States. Approximately 15% of these individuals are unaware of their HIV status, increasing the likelihood of transmission (CDC, 2019). Men who have sex with men (MSM), black homosexual and bisexual young adult males ages 13 to 29 years, injection drug users, Latinos, African Americans, and transgender women are especially vulnerable to the HIV epidemic. Priority locations such as the southern United States and metropolitan areas are at the forefront for HIV exposure. HIV rates declined from 2010 to 2013, but plateaued in 2016. The Centers for Disease Control and Prevention (CDC) estimates that the HIV rate has stabilized as a result of ineffectively reaching these disproportionate populations with HIV preventative measures (2019).

The combination antiretroviral drug tenofovir disoproxil fumarate emtricitabine (TDF/FTC), or PrEP, is the first Food and Drug Administration (FDA) approved medication for the prevention of HIV with almost a 92% efficacy for those with detectable drug levels (CDC, 2017). PrEP was federally approved for adults ages 18 and older in the United States in 2012. In September 2017, the ATN-113 was the first trial to include adolescents MSM ages 15 to 17 (Gray, Shenoi, & Dillingham, 2018). Trial results indicated PrEP was safe and efficacious for youth. Influenced by this study, PrEP was approved by the Food and Drug Administration on May 25, 2018 for youth over 35 kilograms (U.S. Department of Health & Human Services, 2018b). Prevention through the prescription and usage of PrEP is an approach that promotes the *National/AIDS Strategy for the United States* desired outcome of reducing the number of new HIV diagnoses by 25% by 2020 (U.S. Department of Health & Human Services, 2018a). Approximately 1.1 million Americans are at risk for HIV transmission as a result of their risk factors, but only 90,000 have been prescribed PrEP (Federal HIV/AIDS Web Council, 2018).

Under-prescribing PrEP increases the likelihood of HIV exposure among serodiscordant couples and those at high-risk for HIV exposure. HIV providers with the knowledge and skill to prescribe PrEP are limited in number and rarely provide care for HIV-negative patients. In contrast, primary care providers are greater in number and are more likely to encounter patients who are high-risk, but HIV negative. Recently, Petroll and colleagues (2017) surveyed 525 HIV care providers and primary care physicians. Approximately 98% of HIV providers had received knowledge of PrEP compared to only 76% of primary care physicians. Primary care providers voiced concerns on their limited PrEP knowledge and skills in identifying patients high-risk for HIV exposure, risk-reduction counseling, and follow-up monitoring. The use of simulation in a

healthcare classroom would allow students and medical providers to advance their PrEP and sexual healthcare knowledge and skills that are not consistently developed in clinical practice.

Review of the Literature

Identification of simulation as an evidence-based teaching method occurred through a literature search of CINAHL, PubMed, and Ovid databases with the key words “standardized patient simulation” and “primary care”. Results were limited by publication in the last ten years and resulted in 6,358 articles. An advanced search including key words “sexual healthcare” and “PrEP” generated articles with various healthcare topics not explicit sexual healthcare or PrEP.

The Institute of Medicine (IOM), recommends simulation as a method to teach students effective responses to multilayered clinical circumstances (Galloway, 2009). To be effective, the student experience should be integrated into the student curriculum, provide deliberate feedback, and be outcome driven (Motola, Devine, Chung, Sullivan, & Issenberg, 2013). Studies support simulation as an evidence-based method that correlates with effective skill retention, knowledge retention, and comfort providing healthcare to patients (Fitzpatrick et al., 2012; McLaughlin, Monahan, Doezema, & Crandall 2007). Using simulation as an educational learning experience allows students and healthcare providers to advance their sexual health skills and solidify their learning in a safe environment.

Bambini and colleagues (2009) performed a quasi-experimental study sampling 112 undergraduate nursing students. Confidence in postpartum and newborn nursing skills was assessed after a simulation experience. Self-efficacy scores increases from a mean of 28.66 to 42.14 prospectively. Patient education and clinical skills also improved. The authors determined this method of learning led to skill retention and improved clinical patient interview abilities.

The authors also concluded that simulation cultivates three qualitative results for analysis: communication, self-assurance, and clinical judgment (Bambini, Washburn, & Perkins, 2009).

Addressing sexual healthcare and HIV status warrants challenging conversations between healthcare providers and patients. Boss and colleagues (2012) observed 10 neonatology physicians in a simulation including a challenging conversation with a female having a preterm birth at 23 weeks. Post encounter surveys and debriefing helped reproduce the decisional context of this challenging conversation with 75% of physicians feeling sure of their decisional making capacity after simulation. Ford and colleagues (2010) compared the benefits of didactic lecture to simulation in the intensive care unit. Medication errors were reduced among the 12 nurses who participated in the simulation by 26.8%, providing evidence that simulation increases participant competency and patient safety. Acknowledging previous study outcomes in other challenging areas of healthcare, patient simulation with a HIV high-risk patient could assist in improving sexual healthcare screening confidence and communication related to PrEP candidacy.

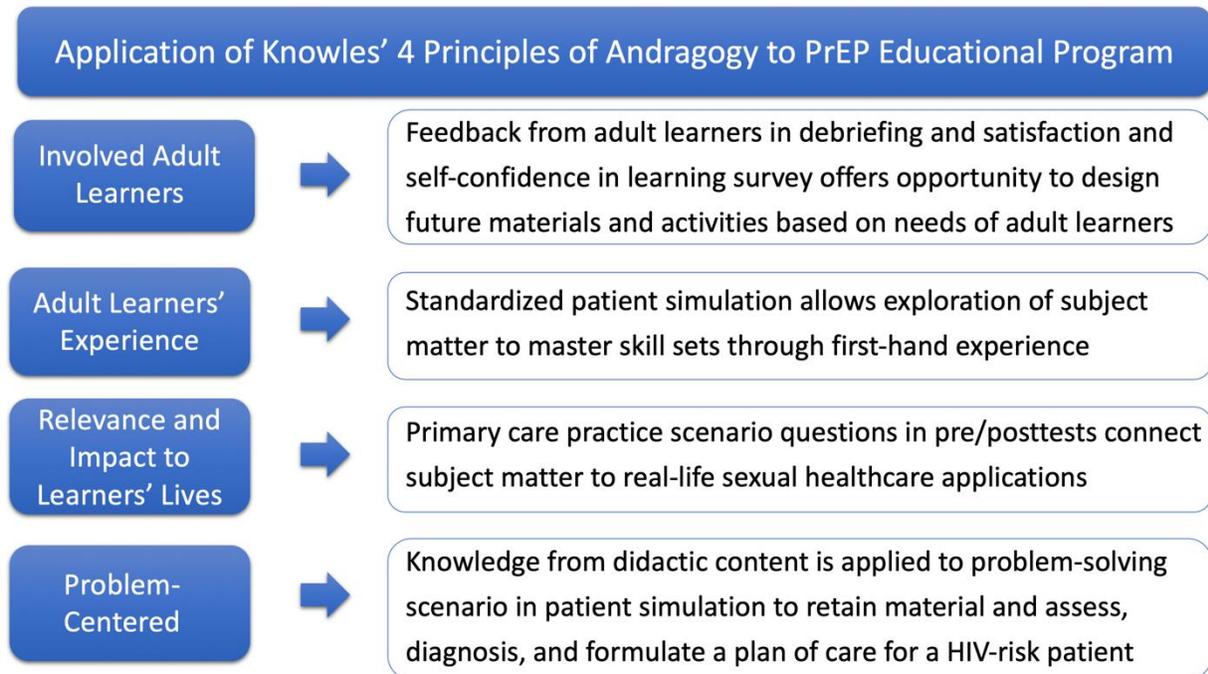
Theoretical Framework

Knowles' Adult Learning Theory provided the conceptual framework for this program. The theory incorporates five assumptions of the adult learner: (a) self-concept, (b) adult learner experience, (c) readiness to learn, (d) orientation to learning, and (e) motivation to learn (Malcolm, 1978). Knowles established that adults are self-directed learners that benefit from exploring a topic autonomously. Relevant and useful information is necessary to encourage active involvement in adult learning. Length and intensity of the experience contains value, but also a person's culture or belief system. Adult learners excel with brief guidelines void of useless details (Malcolm, 1978). Understanding Knowles' assumptions of the adult learner, Knowles'

Adult Learning Theory was used to guide the implementation of a PrEP educational program as illustrated in Figure 1.

Figure 1

Application of Knowles' 4 Principles of Andragogy to a PrEP Educational Program (Malcolm, 1978).



Setting and Organizational Assessment

The program was conducted at a public university located in a metropolitan area in the Midwestern United States. This program was provided to all family and adult/gerontology primary care nursing practice students in their third year of study in the Doctor of Nursing Practice (DNP) program. The didactic component of the program was recorded and provided to the program participants in an university classroom. The simulation activities took place in the school of nursing simulation lab. Permission was obtained from University of Louisville's DNP program director Dr. Sara Robertson.

Purpose

The purpose of this project was evaluate an educational program aimed at increasing participant knowledge attainment and self-confidence in the ability to ascertain a sexual health history, provide sexual health care in the primary care setting, as well as to advance the participant's ability to properly identify, manage, and counsel PrEP candidates.

Intervention

Participants listened to a 30 minute pre-recorded didactic lecture based on CDC guidelines identifying the role of primary care in the completion of a comprehensive sexual healthcare screening and implementation of an HIV prevention strategy using PrEP. Lecture was divided into two 15-minute sections. Participants had the opportunity to apply the information learned through a standardized patient simulation.

The standardized patient (SP) simulation included a pre-briefing via a door chart detailing physical assessment parameters and summary of the clinical scenario. The door chart detailed the SP's chief complaint, demographic information, and vital signs. The participants were each paired with a SP of whom the participants did not meet until entering the examination room. SPs were trained prior to the scenario and were given a script to follow during the simulated clinical experience (see Appendix A). All SPs were trained by the student investigator to help maintain internal validity.

The SPs were also provided with cue cards to ensure consistency between simulations. The cue cards included positive or negative affirmation of subjective and objective data. If a participant asked a question that could be answered by a cue card, the SP presented the cue card to the participant. If the participant asked a question that was unrelated to the simulation, the SP was instructed to answer that such subjective or objective data is within defined limits. After the

simulation concluded, the participants were moved to a private room and were provided the opportunity to order laboratory tests and receive results to determine the next phase of care.

The participants were asked to compose a Subjective, Objective, Assessment, and Plan (SOAP) note to solidify content learned from simulation. Participants used information from SP subjective histories, physical assessments, and laboratory test results to help determine a diagnosis and formulate a plan for management and follow-up. Participants were also given a condensed PrEP and sexual healthcare screening informational handout that they could use to help compose their SOAP note (see Appendix B). The SOAP note was self-assessed by the participant based on a rubric for inclusion of specific subjective and objective data, assessment, and plan (see Appendix C). The student investigator held a 10-minute group debriefing with all participants at the end of the scenario. The learning outcomes were addressed during this session and any questions or concerns the participants had were answered. After the debriefing session concluded, each participant completed the posttest and the NLN student satisfaction and self-confidence in learning tool.

The simulation activity including pre-activity education, simulation experience, write up and debrief lasted a total of 6 hours. Prior to implementation, permission for the educational program was submitted to the University of Louisville Institutional Review Board. The quality improvement project was deemed non-human subjects research.

Participants

Participants included sixteen family and adult/gerontology primary care nurse practitioner students in their third year of graduate level nursing at the University of Louisville.

Data Collection

The pretest with a preamble consent was distributed in paper copy at the beginning of the program (see Appendix D). Participants were randomly assigned a number one to sixteen by an independent faculty member. Participant IDs were used for the entirety of the program to maintain anonymity and to pair pre and posttest results. The participants were allotted 15 minutes to complete each the pre and posttest. The posttest was distributed in paper copy at the completion of the program. Participants submitted their pre and posttests anonymously into a slotted collection container.

Measurement

The educational program pretest was comprised of participant demographics including age, race, and gender. Three 4-point Likert-type items (1=Extremely Lacking in Confidence and 4=Very Confident) addressed whether the participants felt confident in meeting the educational program objectives (identifying PrEP candidates, eliciting a sexual health history, and synthesizing plans for high-risk sexual practice patients). Nine multiple-choice style knowledge questions regarding PrEP and sexual healthcare understanding were examined (see Appendix E). A single point was given for each correct answer, while no points were awarded for an incorrect answer. Knowledge scores were totaled for each participant ranging from one to nine. The posttest included the same three 4-point Likert-type questions and nine knowledge questions.

Along with the posttest, the Student Satisfaction and Self-Confidence in Learning Survey, created by the National League of Nursing (NLN), was administered (see Appendix F). Permission to use the Student Satisfaction and Self-Confidence in Learning Survey after the educational program was given by Amy McGuire, program manager for the NLN. The survey is a 13-item tool intended to measure student satisfaction with simulation and self-confidence in simulation learning, both using a 5-point scale, with a higher score demonstrating increased

satisfaction and/or self-confidence. Participants completed five questions measuring student satisfaction and eight items measuring self-confidence in learning. Jeffries and Rizzolo (2006) reported a reliability of 0.94 for the satisfaction subscale and 0.87 for the self-confidence subscale.

Results

A total of 16 DNP students, ages 23-48 ($M=30.75$, $SD=6.85$), participated in the program and completed surveys. The majority of participants were aged 26 to 35 years old. Females represented the entirety, with 81.3% Caucasian. A majority of the participants, 56.2%, did not have any experience in their nurse practitioner clinical rotation discussing PrEP as a treatment option with high-risk sexual behavior patients. The remaining 43.75% had the opportunity to discuss PrEP with patients, but most did not actually prescribe the medication. Only 12.5% of participants had prescribed PrEP in conjunction with their preceptor in their clinical rotations. Positively, most participants, 87.5%, had experience providing healthcare for both LGBTQ and high-risk sexual behavior. Participant demographics and clinical experience are further outlined in Tables 1 and 2. SPSS Version 26 was used for all results data analysis and organization of tables.

Table 1

Participant Demographics

N = 16 Doctor of Nursing Practice Students	
Demographic Variable	N (%)
Gender	
Female	16 (100.00)
Male	0 (0.00)

Age in years:	
23	1 (6.25)
25	2 (12.50)
26	2 (12.50)
27	1 (6.25)
28	3 (18.75)
31	2 (12.50)
32	1 (6.25)
35	1 (6.25)
36	1 (6.25)
43	1 (6.25)
48	1 (6.25)
Ethnicity	
White/Caucasian	13 (81.25)
Black/African American	2 (12.50)
Prefer not answer	1 (6.25)

Table 2

Sexual Healthcare Screening and PrEP Clinical Experience

N = 16 Doctor of Nursing Practice Students	
Clinical Experience	N (%)
Clinical experience in providing healthcare for LGBTQ?	
Yes	14 (87.50)
No	2 (12.50)
Clinical experience in providing healthcare for high-risk sexual behavior?	
Yes	14 (87.50)
No	2 (12.50)
Clinical experience discussing PrEP?	
Yes	7 (43.75)
No	9 (56.25)
Clinical experience prescribing PrEP?	
Yes	2 (12.50)
No	14 (87.50)

A knowledge questionnaire containing nine multiple choice items regarding PrEP and sexual healthcare screening was administered both before and after the PrEP educational program. A paired samples t-test (Table 3) was conducted to evaluate the impact of didactic lecture and SP simulation intervention on participant PrEP and sexual healthcare knowledge scores. Total correct knowledge scores of all nine test questions were converted into a knowledge percent ranging from 0-100. Knowledge percent increased significantly from pretest (59.56 ± 17.43) to posttest (91.06 ± 9.18), $t(15) = 7.01$, $p < .0001$). The mean increase in correct knowledge percent was 31.50 with a 95% CI ranging from 21.92 to 41.08. The magnitude of effect was large (eta squared = .78).

Table 3

Paired T-test Comparison of Total Correct Knowledge Percent Pre and Post Intervention

	Mean \pm SD	<i>t</i>	<i>df</i>	<i>p</i>
Pretest Knowledge Percent (N = 16)	59.56 \pm 17.43	7.01	15	<.0001
Posttest Knowledge Percent (N = 16)	91.06 \pm 9.18			

Descriptive Statistics (Table 4) were used to describe the impact of an SP simulation intervention on participant confidence in meeting three outcome objectives: identifying candidates for PrEP, eliciting a sexual health history, and synthesizing a plan for a high-risk sexual practice patient. Confidence scores were rated by participants from one to four (1=Extremely Lacking in Confidence and 4=Very Confident) on both participant pretest and posttest.

Confidence in identifying candidates for PrEP, increased from pretest (M=2.50, SD=0.63) to posttest (M=3.13, SD=0.62). Both pretest and posttest confidence scores ranged from two to four. The mean increase in confidence scores was 0.63.

Confidence in eliciting a sexual history increased from pretest (M=3.13, SD=0.50) to posttest (M=3.56, SD=0.51). Pretest confidence scores ranged from two to four, compared to posttest scores which ranged from three to four. The mean increase in confidence scores was 0.43.

Confidence in synthesizing a plan for high-risk sexual practice patients increased from pretest (M=2.31, SD=0.48) to posttest (M=3.19, SD=0.40). Pretest confidence scores ranged from two to three, compared to posttest scores which ranged from three to four. The mean increase in confidence scores was 0.88.

Table 4

Comparison of Pre and Post Intervention Participant Confidence

	Pretest Mean	Posttest Mean	Change in Mean Confidence from Pre to Posttest
Confidence Score in Identifying Candidates for PrEP (N=16)	2.50	3.13	0.63
Confidence Scores in Eliciting a Sexual History (N=16)	3.13	3.56	0.43
Confidence Scores in in Synthesizing a Plan for High-Risk Sexual Practice Patients (N=16)	2.31	3.19	0.88

The 13-item NLN Student Satisfaction and Self-Confidence in Learning Survey (National League for Nursing, 2019) was administered following the simulation. Responses to the survey

were analyzed descriptively and are illustrated in Table 5. The survey comprised two separate sections that were subtotaled independently. The participants had a mean satisfaction score of 21.50 ± 3.03 (maximum possible = 25) and a mean self-confidence score of 29.44 ± 3.44 (maximum possible = 35).

Table 5

Student Satisfaction Self-Confidence and Learning with Simulation Program

	N	Range of Respondent Scores	Minimum Possible Score	Maximum Possible Score	Mean Score of Respondents	Std. Deviation of Respondent Scores
Participant Satisfaction Score	16	9	16	25	21.50	3.03
Participant Self-Confidence Score	16	12	23	35	29.44	3.44

A single open-ended response allowed participants to describe what they liked, did not like, or what could be improved regarding the patient simulation. Four of 16 participants responded. Four participants provided constructive feedback. Live lecture, rather than recording was preferred. Separating didactic content and simulation into different days was suggested to allow additional comprehension of material. One participant reported satisfaction that the simulation experience provided additional opportunity to formulate a plan for a patient that could be applied to future practice. Another participant reported an increase in self-confidence in collecting inclusive subjective data.

Discussion

Interpretation

Results suggest that implementation of a sexual healthcare screening and PrEP SP simulation in a graduate level nurse practitioner course was a successful adjunct to traditional didactic teaching to reinforce student knowledge, application of skills, and confidence in learning. Responses from participants reflected overall satisfaction and self-confidence in learning after conclusion of simulation experience. The educational program was generally well received by participants; however, feedback included the suggestion of a live rather than recorded lecture and to provide the opportunity for questions. Moving directly from lecture to simulation was also an area of concern because it prevented participants from processing lecture content. Providing didactic content earlier could allow for easier comprehension and application of content in simulation.

Participants' confidence in identifying PrEP candidates, eliciting a sexual health history, and synthesizing plans all improved post-education and simulation. The two students with previous nurse practitioner clinical course experience in providing healthcare for high-risk sexual behavior had a higher mean confidence score ($3.29 \pm .47$) than those without experience ($2.50 \pm .71$) in eliciting a sexual health history. Graduate education encompassing pharmaceutical HIV prevention measures and sexual healthcare follow-up improved confidence in identifying PrEP candidates and formulating a plan for patients with high-risk sexual behaviors.

Post-intervention total knowledge percent improved by 53%, indicating that application through simulation has the ability to increase student test scores. Findings were consistent with previous studies that examined the outcome of simulation and found improvement in students'

knowledge and confidence providing this type of specialized healthcare (Fitzpatrick et al., 2012; McLaughlin, Monahan, Doezema, & Crandall 2007)

Limitations

Limitations of this project included implementation in a single university setting and small sample size which impacted generalizability of results. Purposive sampling used in selecting DNP students in their third year also limited this project. This sampling method increased the risk of response bias from participants. Self-reported measures were used for both the NLN survey to determine satisfaction and self-confidence in simulation learning and pretest and posttest confidence in meeting outcome objectives. Self-reported measures may have been subject to interpretation bias by participants. Variations in participant previous PrEP and sexual healthcare screening experience prior to implementation may have effected pre and post knowledge assessment and satisfaction with simulation. Participants with greater initial knowledge scores would have limited opportunity to increase scores. Lastly, lack of long-term prevented the determination if simulation transfers to future clinical practice.

Conclusion

The simulation educational program addressed future family and adult/gerontology primary care doctor of nursing practice students' knowledge of PrEP and sexual health care screening in an effort to increase this innovative preventative medication to viable HIV at-risk candidates in clinical practice. The simulation experience was an effective tool in improving provider satisfaction and self-confidence in learning PrEP management and sexual healthcare screening.

If integrated into a DNP program, the simulation program could improve quality in clinical education by increasing pre-clinical learning regarding PrEP. With increased simulation

programs in sexual healthcare screening and PrEP management, future providers may have improved knowledge and confidence in delivering PrEP counseling and preventative medicine with the long-term outcome of decreasing HIV incidence.

Suggested program improvements could include assessment of participant SOAP notes with rubric score to provide additional quantitative and qualitative data for analysis. The simulation program could also expand into an interdisciplinary setting that includes other healthcare programs such as medical and dental to provide supplementary effective teaching methods.

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Appendix A

Standardized Patient Script

Simulated Patient Script – High-Risk Sexual Patient

Scenario: John Brown is a 25-year old Caucasian male who presents to your primary care clinic. He presents today with a chief complaint of rhinitis after a recent move to Kentucky. He has not been to a primary care provider in seven years.

*If asked any of the following information, please respond accordingly.

History:**Chief Complaint:**

I've had a runny nose for the past week that just won't stop. I've never had this problem until I moved to Kentucky.

History of Present Illness:

Onset: My runny nose began about a week ago.

Location: It irritates my nose and the back of my throat.

Duration: It seems like it never stops running, except when I wake up the morning congested at first.

Characteristics: The mucus is clear. My throat feels like it has mucus running down the back.

Aggravating Factors: It's worse when I go outside.

Relieving Factors: I've used some nasal spray from the drug store that seems to help some.

Timing: My nose and the mucus in the back of my throat has been somewhat constant throughout the day.

Past Medical History:

- I had the flu 3 months ago, but I feel much better now except for the irritation with my nose and throat. I've been relatively healthy.

**Only if asked:* I've never been told I have any type of Hepatitis or HIV.

Past Surgical History:

- I've never had surgery.

Hospitalizations:

- I haven't had any hospitalizations.

Current Medications:

- I'm not on anything from a doctor. I've just used the saline nasal spray for the last few days.

Allergies:

- I don't have any allergies.

Social History:

- Smoking: I don't smoke tobacco or e-cigarettes.

- Alcohol: I drink 5-6 drinks on the weekend days, maybe more, but I don't drink during the week.

- Drug Use: I smoke marijuana on rare occasions, but I've never used IV drugs.

- Career/Job: I'm a nursing assistant at the hospital.
- I live by myself. I have no children.

Immunizations:

- I had all my childhood immunizations that I know of.
- *Only if asked:* I haven't had the HPV vaccination, but I've had the Hep A and B.

Family History:

- My mom has allergies and my sister has asthma.
- I think my dad has high blood pressure.

Reproductive/Sexual History:

- Yes I am sexually active.

Gender born, gender identity, sexual orientation:

- I was born male and prefer the pronoun "he". I would consider myself bisexual.

5 P's of Sexual Health:

Partners: I had four male and two female sexual partners in the last couple of months. I've had two additional male partners in the last year.

Practices: I had (receptive) anal sex with all male partners, vaginal sex with both female partners, and oral sex with all partners.

**Only if asked:* I've never been paid for any type of sex.

Protection from STIs: I only wear condoms with female partners sometimes. I don't like how they feel.

Past History of STIs: I had Chlamydia when I was 19 but they gave me an antibiotic and I was retested. I don't have it anymore. My last partner had Chlamydia.

**Only if asked:* I would like to have STI or HIV testing.

Prevention of Pregnancy: I use the "withdrawal" method with female partners and wear male condoms occasionally.

Review of Systems (ROS):

* If any ROS is not on the list below, please deny any symptoms.

General: When asked any of the following: Have you had any fever, chills, fatigue, night sweats, loss of appetite, recent unintended weight loss?

Answer: No I've felt well lately.

Skin: When asked any of the following: Do you have any new rashes, growths, lesions, burning, or itching?

Answer: I don't have any new skin problems that I know of.

HEENT: When asked any of the following: Have you had a headache, any changes in vision, itchy or watery eyes, pain or fullness in your ears, sore throat, nasal congestion, or oral lesions or discharge?

Answer: I've had a runny nose and a bit of a sore throat with the drainage running down my throat. Everything else seems ok. I haven't noticed any sores in my mouth.

Genitourinary: When asked any of the following: Have you had any urinary frequency or trouble urinating? Have you had any blood in your urine, foul odor, or any other change? Do you have any penile lesions, sores, or discharge? Any painful ejaculation? Any testicular masses or rash?

Answer: I've had some occasional dark urine after drinking. It hasn't burned when I pee and I'm not going any more than usual. I haven't had any discharge or sores either.

Rectal: When asked any of the following: Have you had any rectal pain, mucous in stools, painful bowel movements, anal redness, or bleeding after receiving anal sex?

Answer: No, I am not experiencing any of these symptoms.

Physical Exam Cue Cards:

* After the following systems are assessed during the physical exam, please hand the student the cue card provided. Students will verbalize that they will complete the genitourinary and rectal exam.

1. HEENT

Absence of chancre, oral lesions, and pharyngeal discharge. Pharyngeal erythema and post-nasal drip. Erythema and clear secretions in nasal passages.

2. Skin

Absence of rashes, lesions, sores, or growths. Skin is warm and dry.

3. Lymph

Absence of lymphadenopathy.

4. Genitourinary Exam

Absence of penile discharge, lesions, erythema, and warts. Absence of pain/tenderness with palpation of penis or scrotum.

5. Rectal Exam

Absence of lesions, anal discharge, erythema, pain with palpation on DRE.

END SCENARIO

Appendix B

PrEP and Sexual Healthcare Screening Informational Handout

Comprehensive Sexual Healthcare Screening and Pre-Exposure Prophylaxis (PrEP) HIV Prevention**Fast Facts**

Key Points to Ensure a Productive Sexual Health Conversation:

- Ask at least initially, then once every few years: sex assigned at birth, sexual orientation, and gender identity.
 - Ask for preferred pronouns to support patient's current gender identity
- Establish rapport before asking sensitive questions
- Use ubiquitous statements to normalize the discussion
- Pay attention to your own biases and body language
- Rephrase or explain why you are asking a question if a patient seems offended or reluctant to answer

5 P's of Sexual Healthcare:

- Partners
 - Are you currently sexually active? Have you been sexually active in the past?
 - Do you have sex with men, women, or both?
 - In the past 2 months how many partners have you had sex with?
 - In the past 12 months how many partners have you had sex with?
- Practices
 - Have you ever had vaginal sex? If so, do you use condoms never, sometimes, or always?
 - Have you had anal sex? If yes, do you use condoms never, sometimes, or always?
 - If you never use condoms, why not?
 - If you sometimes use condoms, in what situations and with whom?
 - Have you had oral sex?
 - Have you ever exchanged sex for commodities?
 - Have you used drugs or alcohol when you had sex?
- Protection from STIs
 - "What do you do to protect yourself from STIs or HIV?"
 - Have you been vaccinated against HPV, Hepatitis A, or Hepatitis B?
 - Are there other forms of protection from STIs that you would like to discuss today?
- Past History of STIs
 - Have you ever been tested for HIV, or other STIs? Would you like to be tested?
 - Have you ever been diagnosed with an STI? When? How were you treated?
 - Has your current partner or any former partners ever been diagnosed or treated for an STI? Were you tested for the same STI(s)?
- Prevention of Pregnancy
 - Are you or your partner trying to get pregnant?
 - If no, what are you doing to prevent pregnancy?

Risk Reduction Counseling to Prevent STI/HIV:

- Provide basic information about how STIs are transmitted
- Safe sex practices to reduce transmission and lower risk:
 - Using female/male condoms, lubricants, dental dams with each sexual encounter
 - STI/HIV screening, regular Pap Smears for females
 - Abstinence
 - Reducing the number of sexual partners
 - Recommending contraceptive services
 - No female douching after intercourse
 - Preventative medications: PrEP
 - Use of sterile drug injection equipment or enrollment into drug treatment programs
 - Vaccinations: HPV, Hep A, Hep B
 - HPV vaccination: is recommended through age 26 for women, and through age 21 for men, if not vaccinated when younger
 - HPV vaccination is also recommended through age 26, if not vaccinated when younger:
 - Young men who have sex with men
 - Young adults who are transgender
 - Young adults with weakened immune systems.
- Provider mediated goal setting
 - If risks are increased by substance use, mental illness, stress, etc., facilitate follow up and treatment.

PrEP Quick Facts:

- Once daily oral medication to prevent HIV with almost a 92% efficacy for those who have daily adherence
- Combination of two antiviral drugs used to treat HIV infection: emtricitabine 200mg and tenofovir disoproxil fumarate 300mg
 - Drug class: Nucleoside Reverse Transcriptase Inhibitors (NRTI)
 - Prevents HIV from replicating
- Federally approved for adults ages 18 and older in the United States in 2012
- Approved by the Food and Drug Administration on May 25, 2018 for youth over 35 kilograms
 - 16 US states allow minor consent for PrEP
 - Kentucky is NOT one of these states
- Approximately 1.1 million Americans are at risk for HIV transmission as a result of their risk factors, but only 18% of these individuals have been prescribed PrEP

High-Risk Sexual Behavior: Indicator for PrEP:

- Individuals with the following behaviors:
 - Sexual partner with HIV
 - Detectable viral load or inconsistent/no antiviral medication
 - Recent bacterial STI
 - Multiple sex partners
 - Inconsistent or no condom use
 - Commercial sex work
 - Use of alcohol or drugs with sexual behavior
 - Men who have sex with men (MSM)
 - Transgender women who participate in receptive anal sex
- Injection drug users

- HIV positive injecting partner
- Sharing injection equipment

Assessment: ICD-10 Codes:

- Contact with and (suspected) exposure to infections with a predominately sexual mode of transportation
- High risk (bi)(homo)(hetero)sexual behavior

Clinically Eligible:

- HIV negative status BEFORE prescribing PrEP
 - No signs or symptoms of acute HIV infection
 - Rash, fever, chills, headaches, fatigue, sore throat, night sweats, loss of appetite, ulcers that appear in the mouth, esophagus, or genitals, swollen lymph nodes, muscle aches, diarrhea
- Renal function within defined limits
- No contraindicated medications
 - Medications that decrease renal function
 - Other antiviral therapy
 - Allergy to emtricitabine or tenofovir disoproxil fumarate
- Documented hepatitis B virus infection and vaccination status

PrEP Side Effects:

- “Start-Up Syndrome” most common side effects resolved within the first month of initiating PrEP
 - Most Common: **Headache and Nausea/Abdominal Pain**
 - Weight Loss
 - Fatigue
 - Diarrhea
 - Back Pain
 - Rash
 - Dizziness
- Serious Reactions
 - Kidney Failure/ Nephrotoxicity
 - Lactic Acidosis
 - Hepatomegaly/Hepatotoxicity
 - Decreased Bone Mineral Density

Initiation of PrEP: Required Baseline Labs:

- HIV Test
 - HIV Antigen-Antibody Test 4th Generation
 - Acute HIV symptoms or report of unprotected sex in the last month: use both HIV antigen-antibody test and HIV RNA test
- Renal Function
 - Creatinine Clearance must be ≥ 60 mL/min
 - Chronic kidney disease – assess phosphorus
- Hepatitis B Surface Antigen
 - Patients with chronic hepatitis B can use PrEP, but liver function must be monitored

- Pregnancy Test (if applicable)

Initiation of PrEP: Indicated Baseline Labs:

- STI Testing
 - Test from anatomical sites based on subjective patient practice history
 - Urethral, rectal, and pharyngeal sites
 - Syphilis
 - RPR/VDRL
 - Chlamydia
 - Gonorrhea
 - nucleic acid amplification test (NAAT) preferred for both GC and CT
- Hepatitis C Antibody
 - For MSM, injection drug users, individuals born between 1945-1965

PrEP Counseling:

- PrEP ONLY provides protection from HIV
 - Patients should be educated on continued safe sex practices including condom use
- Dosing
 - One tablet, once daily, with or without food
- Adherence
 - Efficacy is strongly correlated with daily dosing
- Missed Dose
 - Do not double dose. Take next dose when remembered

PrEP Management and Follow-Up:

- Optional 1 Month or Phone Call
 - Confirm HIV negative status
 - Assess for early side effects, adherence barriers, and patient questions
- Every 3 Months
 - Repeat HIV Testing
 - Assess for signs or symptoms of acute HIV infection
 - Repeat Pregnancy Testing (gender applicable)
 - STI testing for symptomatic patients or asymptomatic MSM (CDC update 2017)
 - Assess medication side effects and interest in continuing PrEP
 - Provide support for medication adherence, including financial support
 - Prescription for NO MORE than 90 day supply (until next HIV test)
- Every 6 Months (in addition to above):
 - Monitor CrCl
 - Renal decline does not require treatment cessation if CrCl \geq 60mL/min
 - STI Testing for all individuals even if asymptomatic
 - Chlamydia, Gonorrhea, Syphilis

Patient Tests Positive for HIV while on PrEP:

- Discontinue medication to avoid development of HIV resistance
 - PrEP consists of only one drug class of seven to treat HIV
- Order HIV genotype

- Report positive HIV result to health department
- Refer patient to Infectious Disease/HIV provider for evaluation and treatment

PrEP Resources for Patients:

- CDC has created a data base of PrEP providers
 - <https://preplocator.org>
- Payment Assistance through Gilead (Manufacturer of PrEP)
 - Uninsured
 - Advancing Access® Patient Assistance Program
 - <https://www.gileadadvancingaccess.com/financial-support/uninsured>
 - Commercial Insurance
 - Gilead Co-pay card covers up to \$7200 per year with no monthly limit if eligible
 - Government Insurance
 - Independent co-pay foundations

PrEP Resources for Providers:

- CDC Pre-Exposure Prophylaxis for the Prevention of HIV Infection in the United States – 2017 Update
 - <https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2017.pdf>
- CDC PrEP Physician Hotline
 - Guides provider with prescribing PrEP
 - 1-855-448-7737

Appendix C

SOAP Note Rubric

SOAP Note Rubric – High-Risk Sexual Behavior

Participant ID Number: _____

Authors: Sara Robertson, DNP, APRN, FNP-C; Mary DeLetter, PhD, RN; Skyler Frye BSN, RN

Scenario: John Brown is a 25-year old Caucasian male who presents to your primary care clinic. He presents today with a chief complaint of rhinitis after a recent move to Kentucky. He has not been to a primary care provider in seven years.

Subjective Data:___ **(5) The 5 P's of Sexual Health:**

___ **(1) Partners:** Currently sexually active. 4 male and 2 female partners in the last 2 months. 2 additional male partners in the last 12 months.

___ **(1) Practices:** Receptive anal sex from 4 male partners, vaginal sex with 2 female partners, and performed and received oral sex with all 6 partners. Occasionally drinks alcohol before sex.

___ **(1) Protection from STIs:** Wears male condoms "sometimes". Does not wear condoms because he "does not like how they feel".

___ **(1) Past History of STIs:** Chlamydia at 19 years of age that has been treated and resolved. Received a test of cure. Agreeable to STI and HIV testing. Past partner was diagnosed with chlamydia.

___ **(1) Prevention of Pregnancy:** Practices the "withdrawal" method with female partners and wears male condoms occasionally.

___ **(3) Identification of Gender, Gender Identity, Sexual Orientation:**___ **(1) Gender Born:**

Male

___ **(1) Gender Identity:**

Male

___ **(1) Sexual Orientation:**

Bisexual

___ **(1) Past Medical History:**

Flu 3 months ago with full recovery. (otherwise, unremarkable)

___ **(2) Preventive Health:**___ **(1) HPV Vaccination:**

Never received Gardasil series.

___ **(1) Hepatitis B Vaccination**

Up to date.

___ **(1) Current Medications:**

None.

___ **(1) Allergies:**

None.

___ **(3) Social History:**___ **(1) Career/Job**

Nursing Assistant. Denies commercial sex work.

___ **(1) Alcohol use**

Binge drinks 5-6 drinks on weekends. Denies alcohol consumption on weekdays.

___ **(1) Drug use**

Smokes marijuana on rare occasions. Denies IV drug use.

___ **(5) Review of Systems:**___ **(1) General:**

HIV symptoms: Denies fever, chills, fatigue, night sweats, loss of appetite, recent unintended weight loss

___ (1) **HEENT:**

Sore throat and runny nose with clear secretions lasting one week. Denies oral lesions, erythema or discharge.

___ (1) **Skin:**

Denies new rashes, growths, lesions, or burning or itching.

___ (1) **Genitourinary:**

Occasional dark urine after binge drinking. Denies urinary frequency, urgency, or painful urination. No penile discharge, painful ejaculation, or lesions.

___ (1) **Rectal:**

Denies rectal pain, mucous in stools, painful bowel movements, anal redness, or bleeding after receiving anal sex.

Total Points Subjective Data (21 Points Possible): _____

Objective Data (focused physical exam):

___ (1) **Vitals:** 5'11", 175lbs, BMI=24.4, T=98.6, B/P=128/78, HR=70, RR=14

___ (1) **HEENT:** Absence of chancre, oral lesions, and pharyngeal discharge. Pharyngeal erythema and post-nasal drip.

___ (1) **Skin:** Absence of rashes, lesions, or growths.

___ (1) **Lymph:** Absence of lymphadenopathy.

___ (1) **Genitourinary:** Absence of penile discharge, lesions, erythema, and warts. Absence of pain/tenderness with palpation to penis or scrotum.

___ (1) **Rectal Exam:** Absence of lesions, anal discharge, erythema, pain with palpation on DRE

Total Points Objective Data (6 Points Possible) : _____

Assessment:

___ (1) High risk bisexual behavior (Z72.53)

___ (1) Contact with and (suspected) exposure to infections with a predominately sexual mode of transportation (Z20.2)

Total Points Assessment (2 Points Possible): _____

Plan:

___ (7) **Laboratory Studies:**

___ (1) Fourth-generation HIV antigen-antibody test/HIV RNA

___ (1) Hepatitis B screening

___ (1) Serum creatinine/CrCl

___ (1) Chlamydia NAAT/culture

___ (1) Gonorrhea NAAT/culture

___ (1) Syphilis Screening RPR/VDRL

___ (1) Hepatitis C Screening

___ (2) **Medication and Immunizations:**

___ (1) PrEP 90 day supply: emtricitabine 200mg and tenofovir disoproxil fumarate 300mg

___ (1) HPV Vaccination

___ (3) **Behavioral Sexual Risk-Reduction Counseling:**

___ (1) Consistent use of condoms.

___ (1) Reduce the number of sexual partners.

___ (1) No drugs or alcohol before sexual behavior.

___ (5) **PrEP Education:**

___ (1) Daily adherence.

___ (1) Symptoms of acute HIV infection.

- ___ (1) Discuss serious medication side effects that require evaluation (signs of nephrotoxicity, lactic acidosis, hepatotoxicity).
- ___ (1) PrEP ONLY protects against HIV. Educate on continued need for safe sex practices.
- ___ (1) Required follow-up every 3 and 6 months for scheduled laboratory studies and counseling.

Total Points Plan (17 Points Possible) : _____

S (21)=
O (6)=
A (2)=
P (17)=

Total Points Obtained (46 Points Possible): _____

Appendix D

Preamble Consent

The Use of Simulation to Practice Pre-Exposure Prophylaxis Sexual Health Risk Screening, Management, and Follow-up within a Doctor of Nursing Practice Program

June 27st, 2019

Dear Participant,

You are being invited to participate in a survey about communication principles and caring for a special population patient. By answering questions in the attached survey, the project leaders will be able to measure the effectiveness of the didactic content combined with simulation on knowledge attainment regarding special population care. Additionally, a brief demographic questionnaire and a survey about participant satisfaction and self-confidence in learning through the use of simulation will be collected after the project intervention has concluded.

Dr. Sara Robertson, Dr. Mary DeLetter, and Skyler Frye of the University of Louisville are conducting this survey. There are no known risks for your participation in this survey. There is a theoretical risk of mild discomfort addressing topics relating to caring for a special population, but this is not unique to this survey given the ubiquitous nature of the existence of special populations of patients seeking care. The information collected may not benefit you directly, but may be helpful to others. The information you provide may further your educational attainment in this area. Your completed survey will be stored at the University of Louisville on Dr. Sara Robertson's office, 4031 K-wing, in a locked cabinet. The survey will take a maximum of 20 minutes to complete.

Individuals from the School of Nursing, the Institutional Review Board (IRB), the Human Subjects Protection Program Office (HSPPO), and other regulatory agencies may inspect these records. In all other respects, however, the data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed.

Taking part in this anonymous survey is voluntary. By answering the questions on the following page, you agree to take part in this quality improvement project. If you decide to be included in this project, you may stop taking part at any time. If you decide not to be in this project or if you stop taking part at any time, you will not lose any benefits for which you may qualify. If you choose not to participate in this project, pretest question will be released for review the morning of simulation.

If you have any questions, concerns, or complaints about this survey, please contact: Dr. Sara Robertson at 502- 852-3801.

If you have any questions about your rights as a participant, you may call the Human Subjects Protection Program Office at (502) 852-5188. You can discuss any questions about your rights as a project participant, in private, with a member of the Institutional Review Board (IRB). You may also call this number if you have other questions about the project, and you cannot reach the project staff, or want to talk to someone else. The IRB is an independent committee made up of people from the University community, staff of the institutions, as well as people from the community not connected with these institutions. The IRB has reviewed this quality improvement project.

If you have concerns or complaints about the project or the project staff and you do not wish to give your name, you may call 1-877-852-1167. This is a 24-hour hot line answered by people who do not work at the University of Louisville.

Sincerely,

Sara Robertson, DNP, APRN, FNP-C
BSN, RN
Primary Investigator

Mary DeLetter, PhD, RN
Co-Investigator

Skyler Frye,
Co-Investigator

Appendix E

Educational Program and Simulation Pretest

Pre-Test

Participant ID Number: _____

Participant Demographics

1. Age: _____

2. Select your gender:

Male

Female

Transgender

Other (please specify): _____

Prefer not to answer

3. Which of the following best describes your racial/ethnic background?

African American/Black

Caucasian/White

Asian or Pacific Islander

American Indian or Alaskan Native

Hispanic/Latino

Mixed or Multiracial

Other, please specify: _____

Prefer not to answer

4. Has your nurse practitioner clinical experience included providing health care for a member of the LGBTQ community?

Yes

No

5. Has your nurse practitioner clinical experience included providing health care for a patient with high-risk sexual behavior?

Yes

No

6. Has your nurse practitioner clinical experience included your clinical preceptor or yourself discussing pre-exposure prophylaxis (PrEP) with a patient?

Yes

No

7. Has your nurse practitioner clinical experience included your clinical preceptor or yourself prescribing PrEP with a patient?

Yes

No

8. Have you ever been prescribed PrEP by a provider?

Yes

No

Prefer not to answer

9. Identify your level of confidence in your ability to identify candidates for PrEP therapy based on risk factors and eligibility in clinical practice:

- Very Confident (4)
- Fairly Confident (3)
- Lacking in Confidence (2)
- Extremely lacking in confidence (1)

10. Identify your level of confidence in your ability to elicit a sexual health history with patients in clinical practice:

- Very Confident (4)
- Fairly Confident (3)
- Lacking in Confidence (2)
- Extremely lacking in confidence (1)

11. Identify your level of confidence in your ability synthesize a plan for a patient with high-risk sexual practices which includes appropriate PrEP follow-up with patients in clinical practice:

- Very Confident (4)
- Fairly Confident (3)
- Lacking in Confidence (2)
- Extremely lacking in confidence (1)

Pre-Intervention Pre-Exposure Prophylaxis and Sexual Health Screening Knowledge Assessment:

By selecting “I agree” below, you agree to not reference any outside materials other than existing knowledge to complete the following 9-item test.

I agree

1. A 29 year-year old male presents to the primary care office for his annual exam. Knowing that every adult should have a sexual health history completed every year, you begin the discussion.

All of the following are key points to ensure a complete sexual health history EXCEPT:

- a.) Establish rapport before asking sensitive questions
- b.) If a patient seems offended or reluctant to answer, continue to medical history
- c.) Ask for preferred pronouns and terminology to support the patient’s current gender identity
- d.) Use ubiquitous statements to normalize the discussion and promote inclusion

2. A 27-year old man presents to your clinic seeking sexually transmitted disease testing. Knowing high-risk sexual behavior is an indicator for Pre-Exposure Prophylaxis (PrEP) prescription, in which of the following scenarios is PrEP NOT indicated for this individual?

- a.) He intermittently uses injection drugs and shares needles
- b.) He is a man who has sex with men (MSM) with an HIV positive partner that irregularly takes his antiviral medicine
- c.) He had anal intercourse with a HIV positive man 5 weeks ago and presents with fever, fatigue, and sore throat
- d.) He has unprotected sex with multiple male partners consistently

3. A 22 year-old female patient has had unprotected sex with 6 men in the last three months and presents to your primary care office interested in beginning PrEP. She has no symptoms concerning for acute HIV infection. What laboratory values studies are required before initiating PrEP?

- a.) Hepatitis B surface antigen, serum creatinine, fourth-generation HIV antigen-antibody test, pregnancy test (if applicable)
- b.) Hepatitis B surface antigen, alanine aminotransferase (ALT), fourth-generation HIV antigen-antibody test, pregnancy test (if applicable)
- c.) Hepatitis B surface antigen, bone mineral density test, fourth-generation HIV antigen-antibody test, pregnancy test (if applicable)

d) Hepatitis B surface antigen, potassium, fourth-generation HIV antigen-antibody test, pregnancy test (if applicable)

4. A 32 year-old bisexual female with no signs or symptoms of an STI takes PrEP as prescribed for six months and presents to the primary care office for required repeat laboratory testing. Along with recommended HIV and pregnancy testing every 3 months, she should follow-up every 6 months to receive what additional laboratory studies?

- a.) Renal function testing and bone mineral density scan
- b.) Renal function testing and hepatitis panel
- c.) Renal function testing and tuberculosis screening
- d.) Renal function testing and STI testing

5. What are the most common side effect of PrEP reported by users in the first month?

- a.) Rash and pruritis
- b.) Insomnia and anxiety
- c.) Nausea and headache
- d.) Fever and fatigue

6. PrEP provides protection from the following sexually transmitted infections:

- a.) Herpes Simplex Virus and HIV
- b.) Chlamydia, Gonorrhea, and HIV
- c.) HIV
- d.) Chlamydia, Gonorrhea, Syphilis, and HIV

7. At PrEP follow-up appointment primary care providers should provide counseling on all of the following EXCEPT:

- a.) Importance of medication adherence since efficacy of PrEP and daily adherence are strongly correlated
- b.) Safe sex practices such as wearing a condom with each sexual encounter
- c.) Side effects and patient's interest in continuing medication regimen
- d.) Significance of doubling the dose the next day if one is missed to ensure adequate drug levels

8. A transgender female presents to your primary care office for 6 month follow-up for PrEP therapy. You perform laboratory testing and she is positive for Chlamydia and HIV. Knowing your PrEP guidelines you immediately:

- a.) Treat her with azithromycin 1 gram PO X 1 day and provide support for PrEP medication-adherence
- b.) Treat her with azithromycin 1 gram PO X 1 day and educate her to discontinue her PrEP prescription to avoid development of HIV medication resistance
- c.) Treat her with azithromycin 1 gram PO X 1 day and increase her dose to one tablet BID
- d.) Add an additional antiviral to her medication regimen and refer to infectious disease

9. PrEP is a combination of two medications from what drug class commonly used to treat HIV infections.

- a.) Nucleoside Reverse Transcriptase Inhibitors (NRTI)
- b.) Protease Inhibitors (PIs)
- c.) Integrase Inhibitors
- d.) Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTI)

Appendix F

Educational Program and Simulation Posttest

Post-Test

Participant ID Number: _____

1. Identify your level of confidence in your ability to identify candidates for PrEP therapy based on risk factors and eligibility in clinical practice:

- Very Confident (4)
- Fairly Confident (3)
- Lacking in Confidence (2)
- Extremely lacking in confidence (1)

2. Identify your level of confidence in your ability to elicit a sexual health history with patients in clinical practice:

- Very Confident (4)
- Fairly Confident (3)
- Lacking in Confidence (2)
- Extremely lacking in confidence (1)

3. Identify your level of confidence in your ability synthesize a plan for a patient with high-risk sexual practices which includes appropriate PrEP follow-up with patients in clinical practice:

- Very Confident (4)
- Fairly Confident (3)
- Lacking in Confidence (2)
- Extremely lacking in confidence (1)

4. Please describe what you liked, did not like, or what could be improved during this experience for **high-risk sexual behavior**.

Post-Intervention Pre-Exposure Prophylaxis and Sexual Health Screening Knowledge Assessment:

By selecting “I agree” below, you agree to not reference any outside materials other than existing knowledge to complete the following 9-item test.

I agree

1. A 29 year-year old male presents to the primary care office for his annual exam. Knowing that every adult should have a sexual health history completed every year, you begin the discussion.

All of the following are key points to ensure a complete sexual health history **EXCEPT**:

- a.) Establish rapport before asking sensitive questions
- b.) If a patient seems offended or reluctant to answer, continue to medical history
- c.) Ask for preferred pronouns and terminology to support the patient’s current gender identity

d.) Use ubiquitous statements to normalize the discussion and promote inclusion

2. A 27-year old man presents to your clinic seeking sexually transmitted disease testing. Knowing high-risk sexual behavior is an indicator for Pre-Exposure Prophylaxis (PrEP) prescription, in which of the following scenarios is PrEP NOT indicated for this individual?

- a.) He intermittently uses injection drugs and shares needles
- b.) He is a man who has sex with men (MSM) with an HIV positive partner that irregularly takes his antiviral medicine
- c.) He had anal intercourse with a HIV positive man 5 weeks ago and presents with fever, fatigue, and sore throat
- d.) He has unprotected sex with multiple male partners consistently

3. A 22 year-old female patient has had unprotected sex with 6 men in the last three months and presents to your primary care office interested in beginning PrEP. She has no symptoms concerning for acute HIV infection. What laboratory values studies are required before initiating PrEP?

- a.) Hepatitis B surface antigen, serum creatinine, fourth-generation HIV antigen-antibody test, pregnancy test (if applicable)
- b.) Hepatitis B surface antigen, alanine aminotransferase (ALT), fourth-generation HIV antigen-antibody test, pregnancy test (if applicable)
- c.) Hepatitis B surface antigen, bone mineral density test, fourth-generation HIV antigen-antibody test, pregnancy test (if applicable)
- d.) Hepatitis B surface antigen, potassium, fourth-generation HIV antigen-antibody test, pregnancy test (if applicable)

4. A 32 year-old bisexual female with no signs or symptoms of an STI takes PrEP as prescribed for six months and presents to the primary care office for required repeat laboratory testing. Along with recommended HIV and pregnancy testing every 3 months, she should follow-up every 6 months to receive what additional laboratory studies?

- a.) Renal function testing and bone mineral density scan
- b.) Renal function testing and hepatitis panel
- c.) Renal function testing and tuberculosis screening
- d.) Renal function testing and STI testing

5. What is the most common side effect of PrEP reported by users in the first month?

- a.) Rash and pruritis
- b.) Insomnia and anxiety
- c.) Nausea and headache
- d.) Fever and fatigue

6. PrEP provides protection from the following sexually transmitted infections:

- a.) Herpes Simplex Virus and HIV
- b.) Chlamydia, Gonorrhea, and HIV
- c.) HIV
- d.) Chlamydia, Gonorrhea, Syphilis, and HIV

7. At PrEP follow-up appointment primary care providers should provide counseling on all of the following EXCEPT:

- a.) Importance of medication adherence since efficacy of PrEP and daily adherence are strongly correlated
- b.) Safe sex practices such as wearing a condom with each sexual encounter
- c.) Side effects and patient's interest in continuing medication regimen
- d.) Significance of doubling the dose the next day if one is missed to ensure adequate drug levels

8. A transgender female presents to your primary care office for 6 month follow-up for PrEP therapy. You perform laboratory testing and she is positive for Chlamydia and HIV. Knowing your PrEP guidelines you immediately:

- a.) Treat her with azithromycin 1 gram PO X 1 day and provide support for PrEP medication-adherence
- b.) Treat her with azithromycin 1 gram PO X 1 day and educate her to discontinue her PrEP prescription to avoid development of HIV medication resistance
- c.) Treat her with azithromycin 1 gram PO X 1 day and increase her dose to one tablet BID
- d.) Add an additional antiviral to her medication regimen and refer to infectious disease

9. PrEP is a combination of two medications from what drug class commonly used to treat HIV infections.

- a.) Nucleoside Reverse Transcriptase Inhibitors (NRTI)
- b.) Protease Inhibitors (PIs)
- c.) Integrase Inhibitors
- d.) Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTI)

Appendix G

NLN Student Satisfaction and Self-Confidence in Learning Survey

Student Satisfaction and Self-Confidence in Learning

Instructions: This questionnaire is a series of statements about your personal attitudes about the instruction you receive during your simulation activity. Each item represents a statement about your attitude toward your satisfaction with learning and self-confidence in obtaining the instruction you need. There are no right or wrong answers. You will probably agree with some of the statements and disagree with others. Please indicate your own personal feelings about each statement below by marking the numbers that best describe your attitude or beliefs. Please be truthful and describe your attitude as it really is, not what you would like for it to be. This is anonymous with the results being compiled as a group, not individually.

Mark:

- 1 = STRONGLY DISAGREE with the statement
- 2 = DISAGREE with the statement
- 3 = UNDECIDED - you neither agree or disagree with the statement
- 4 = AGREE with the statement
- 5 = STRONGLY AGREE with the statement

Satisfaction with Current Learning	SD	D	UN	A	SA
1. The teaching methods used in this simulation were helpful and effective.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
2. The simulation provided me with a variety of learning materials and activities to promote my learning the medical surgical curriculum.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
3. I enjoyed how my instructor taught the simulation.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
4. The teaching materials used in this simulation were motivating and helped me to learn.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
5. The way my instructor(s) taught the simulation was suitable to the way I learn.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Self-confidence in Learning	SD	D	UN	A	SA
6. I am confident that I am mastering the content of the simulation activity that my instructors presented to me.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
7. I am confident that this simulation covered critical content necessary for the mastery of medical surgical curriculum.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
8. I am confident that I am developing the skills and obtaining the required knowledge from this simulation to perform necessary tasks in a clinical setting	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
9. My instructors used helpful resources to teach the simulation.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
10. It is my responsibility as the student to learn what I need to know from this simulation activity.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
11. I know how to get help when I do not understand the concepts covered in the simulation.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
12. I know how to use simulation activities to learn critical aspects of these skills.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
13. It is the instructor's responsibility to tell me what I need to learn of the simulation activity content during class time..	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5