

Effectiveness of an Educational Intervention at an Academic Medical Center to Reduce Stigma of Accelerated Pre-licensure Nursing Students Toward Patients Living with HIV

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Objectives

- Review the history of HIV as a worldwide pandemic
- Consider how HIV stigma adversely impacts individuals living with HIV
- Discuss how inadequate knowledge perpetuates HIV stigma
- Describe study population and parameters
- Highlight the study outcomes
- Discuss the implementation of study findings

Introduction



- Background and Significance

- Problem

- Purpose the the Study

- Study Questions

- Possible Application of Findings

Background and Significance



Discovery of HIV and AIDS 1981

(Gallo & Montagnier, 2003; Sharp & Hahn, 2011).

- **First ART 1987** (De Clercq, 2009)
- **ART prolongs life for PLWH** (Fitch, 2019; Frain, 2017; Gallant, Hsue, Shreay, & Meyer, 2017)
- **Develop comorbidities with age** (Fitch, 2019; Lerner, Eisinger, & Fauci, 2020)

Barriers to Access Care for PLWH

- **Stigma** (Christopoulos et al., 2018; Davtyan, Olshansky, Brown, & Lakon, 2017; Frye et al., 2017)
- **Social determinants of health (SDOH)** (Schumann, Westergaard, Meier, Ruetten, & Vergeront, 2019)

Deficient Knowledge

- **Southeast has high HIV and Stigma** (Batey et al., 2016; Kerr et al., 2014; Sprague & Simon, 2014; Stringer et al., 2016; Tan & Black, 2018)
- **Perpetuates Stigma and Discrimination** (Boakye & Mavhandu-Mudzusi, 2019; Leyva-Moral et al., 2017; Nagothu et al., 2018; Ouzouni & Nakakis, 2012; Pickles, King, & Belan, 2012; Shah, Heylen, Srinivasan, Perumpil, & Ekstrand, 2014; Sweeney & Venable, 2016)

Problem

HIV transmission rarely occurs from patient to healthcare provider, but there is still fear of contracting HIV/AIDS. The perceived fear originates from inadequate knowledge and may perpetuate stigma/discrimination (Frain, 2017; Phillips et al., 2018; Pickles et al., 2012).

Many health care providers, including nurses, are not provided educational opportunities to increase knowledge of HIV and practice unbiased care, which may perpetuate stigma or discrimination through inappropriate actions or words (Frain, 2017; Phillips et al., 2018).

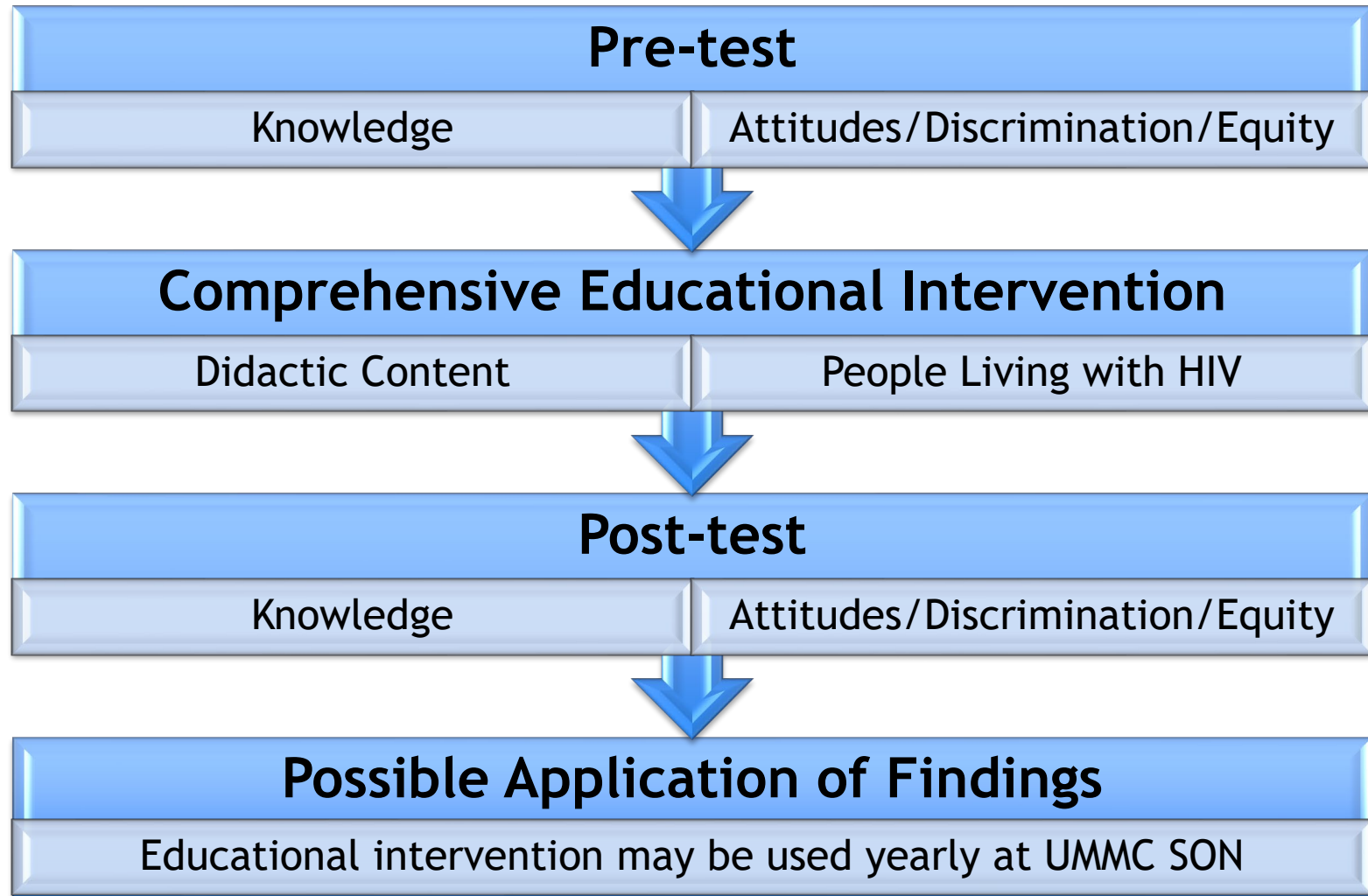
Purpose of the Study

The purpose of this study was to determine if a comprehensive supplemental educational intervention for accelerated pre-licensure nursing students, provided by an HIV nurse practitioner and panelists living with HIV, would produce a significant increase in basic HIV transmission knowledge and a significant difference in attitudes, perceived discrimination, and equitable treatment for PLWH.

Study Questions

1. Is there a significant increase in the knowledge level of accelerated pre-licensure nursing students regarding HIV transmission and HIV prevention strategies after completion of a comprehensive supplemental educational intervention?
2. Is there a significant difference in accelerated pre-licensure nursing student's attitudes, perception of discrimination, and the health and social equity of PLWH after completion of a comprehensive supplemental educational intervention?

Possible Application of Findings



Literature Review



- Medications/Increased Lifespan



- Barriers to HIV Care/Stigma



- Deficient Knowledge Regarding PLWH



- Nursing Education Regarding PLWH

Increased Lifespan for PLWH

More than 30 medications to treat HIV (HHS, 2020d; Zhan, Pannecouque, De Clercq, & Liu, 2015). More than 20 single tablet regimens (HHS, 2020d).

Consistent medication adherence and clinical care, many patients can expect a near-normal life, but may develop comorbidities (Gallant et al., 2017)

Persons retained in HIV care have better clinical outcomes. Increased viral suppression and reduce morbidity and mortality (Enns, Reilly, Horvath, Baker-James, & Henry, 2019; Schumann et al., 2019).

Inconsistent care and poor compliance of ART causes increased risk of death, elevated virus levels, disease progression, and possible drug resistance (Enns et al., 2019).

Barriers to HIV Care



Deficient Knowledge Regarding PLWH

Deficient knowledge is responsible for stigmatizing behaviors and discrimination of PLWH (Davtyan et al., 2017; Frye et al., 2017; Nagothu et al., 2018; Phillips et al., 2018; Pickles et al., 2012; Sweeney & Vanable, 2016; Varas-Diaz et al., 2016).

Outdated information (Davtyan et al., 2017).

Systematic Review - 19 studies identified

- Five studies included PLWH
- PLWH should be included in higher education (Phillips et al., 2018).

SPACES (stigma-free spaces in medical scenarios)

- Medical students (N=385) randomized in groups of 20
- PLWH should be included in higher education (Varas-Diaz et al., 2016).

Nursing Education Regarding PLWH

United States HIV Nursing Education

- Educational intervention in Missouri (Frain, 2017).
- Quasi-experimental cohort design Cameroon, Honduras, United States (Diesel, Taliaferro, & Ercole, 2017).

International Studies

- Nursing education that promotes acceptance and non-discrimination is vital to help nursing students form positive attitudes toward PLWH (Akansel, Aydin, Ozdemir, and Tore, 2012; Dharmalingam et al., 2015; Kok et al., 2018; Nagothu et al., 2018).
- Studies around the world have identified misconceptions by nurses and pre-licensure nursing students regarding HIV transmission and the care of PLWH (Boakye & Mavhandu-Mudzusi, 2019; Leyva-Moral et al., 2017; Shah et al., 2014; Suominen et al., 2015).

Methodology



- Research Design



- Population/Sample



- Data Collection



- Ethical Considerations

Research Design

Quantitative approach with a quasi-experimental design (Creswell & Creswell, 2018).

Pre-test

- HIV Knowledge Questionnaire (HIV-KQ) (Carey and Schroder, 2002)
- Project Accept Stigma Scale (Genberg et al., 2009)

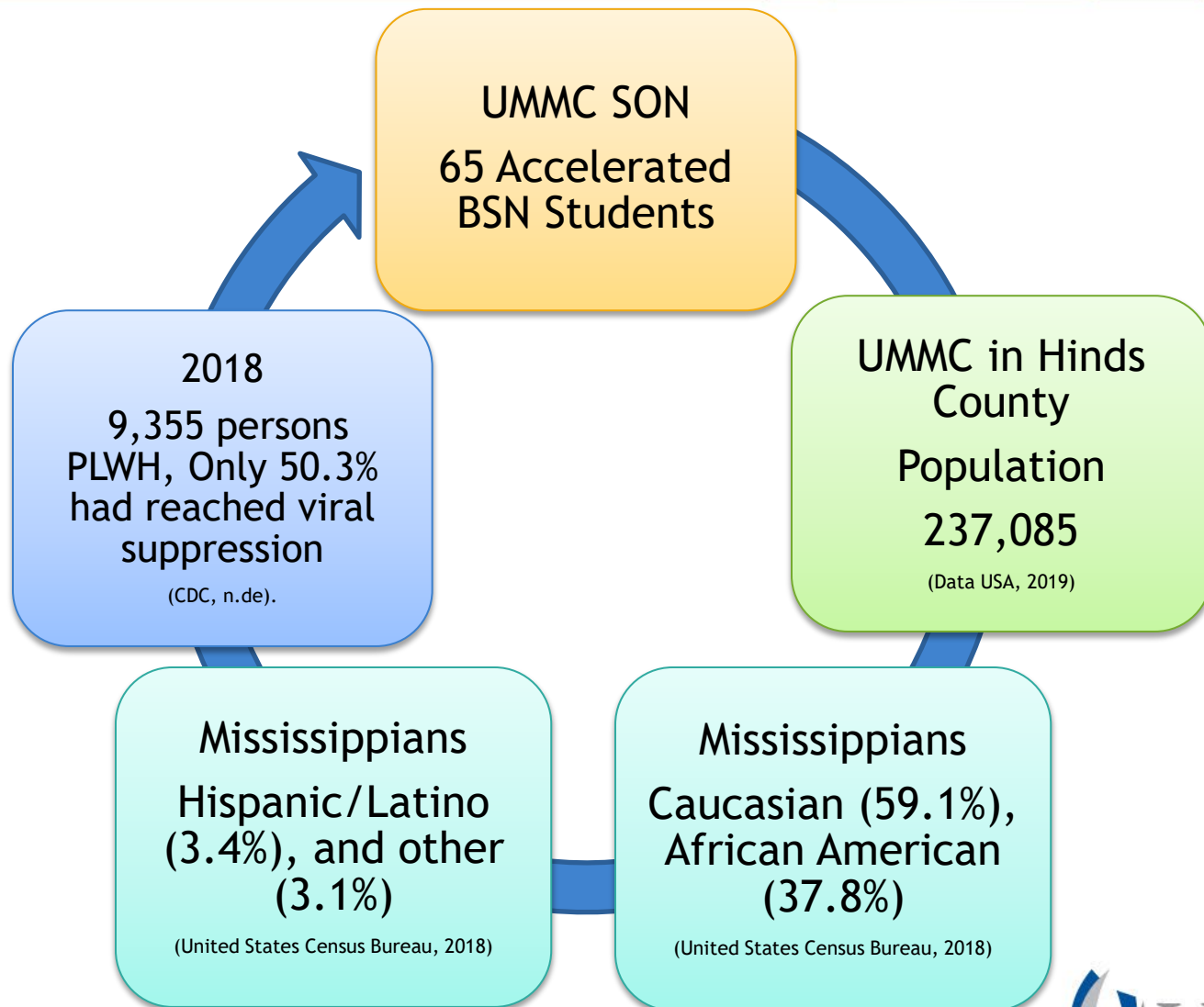
Educational Intervention

- Malcolm Knowles/Adult Learning Theory (Chan, 2010; Spies, Seale, & Botma, 2015).
- Investigator - HIV Nurse Practitioner & PLWH as guest panelists

Post-test

- HIV Knowledge Questionnaire (HIV-KQ) (Carey and Schroder, 2002)
- Project Accept Stigma Scale (Genberg et al., 2009)

Population and Sample



Data Collection Instrument

HIV- KQ-18			
For each statement, please circle “True” (T), “False” (F), or “I don’t know” (DK). If you do not know, please do not guess; instead, please circle “DK.”			
	True	False	I don’t know
1. Coughing and sneezing DO NOT spread HIV.	T	F	DK
2. A person can get HIV by sharing a glass of water with someone who has HIV.	T	F	DK
3. Pulling out the penis before a man climaxes/cums keeps a women from getting HIV during sex.	T	F	DK
4. A women can get HIV if she has anal sex with a man.	T	F	DK
5. Showering, or washing one’s genitals/private parts, after sex keeps a person from getting HIV.	T	F	DK
6. All pregnant women with HIV will have babies born with AIDS.	T	F	DK
7. People who have been infected with HIV quickly show serious signs of being infected.	T	F	DK
8. There is a vaccine that can stop adults from getting HIV.	T	F	DK
9. People are likely to get HIV by deep kissing, putting			

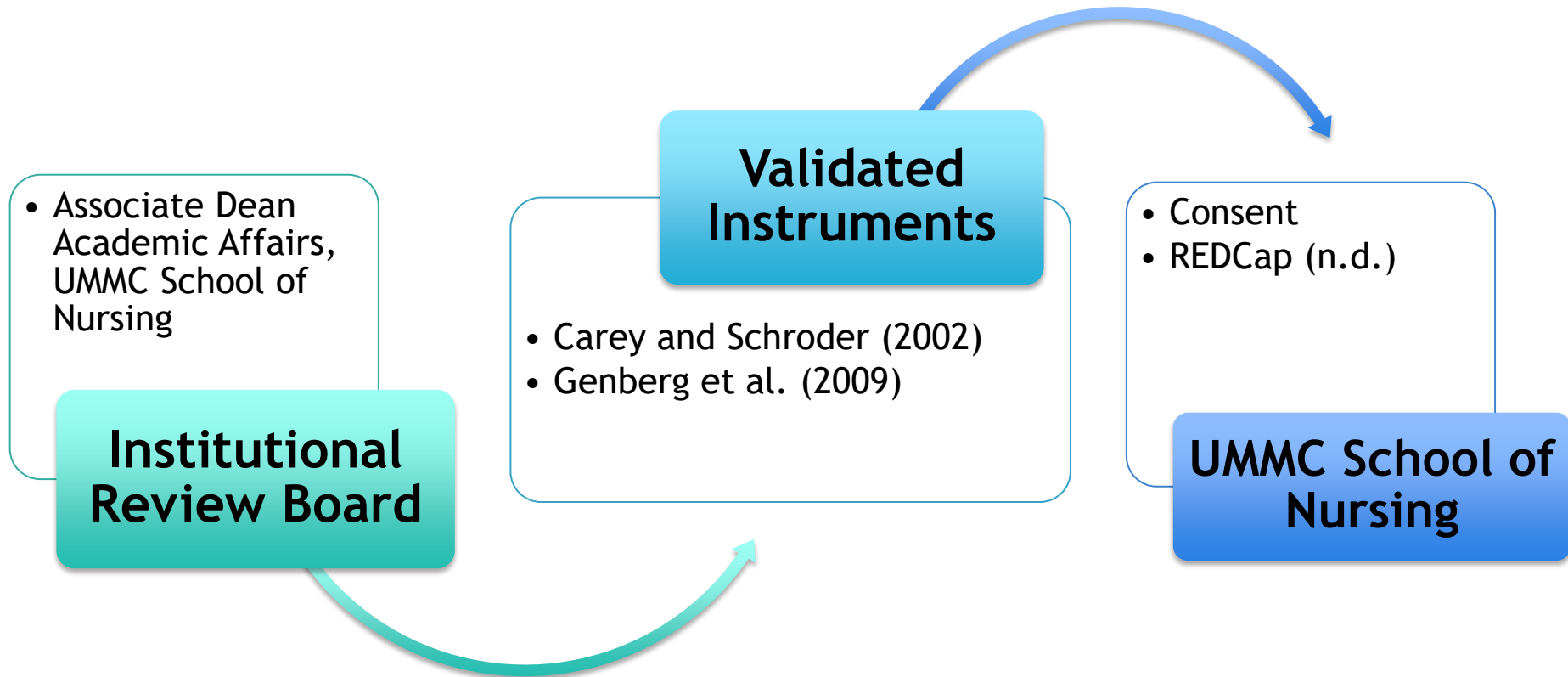
(Carey and Schroder, 2002)

Data Collection Instrument

Stigma Scale	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Negative attitudes					
1. Families of people living with HIV/AIDS should be ashamed.	1	2	3	4	5
2. People living with HIV/AIDS should be ashamed.	1	2	3	4	5
3. People who have HIV/AIDS are cursed.	1	2	3	4	5
4. People who have AIDS are disgusting.	1	2	3	4	5
5. People living with HIV/AIDS deserve to be punished.	1	2	3	4	5
6. It is reasonable for an					

(Genberg et al., 2009)

Ethical Considerations



Solution



- Description of Participants



- Educational Intervention



- Data Analysis



- Findings



- Solution/Product

Description of Participants

65 Accelerated BSN students

65 students received *Immunity* module

45 students participated in the pre-test N=45
(69% of the 65 students)

33 participated in the post-test N=33
(73% of the 45 students).

N=30

Demographics

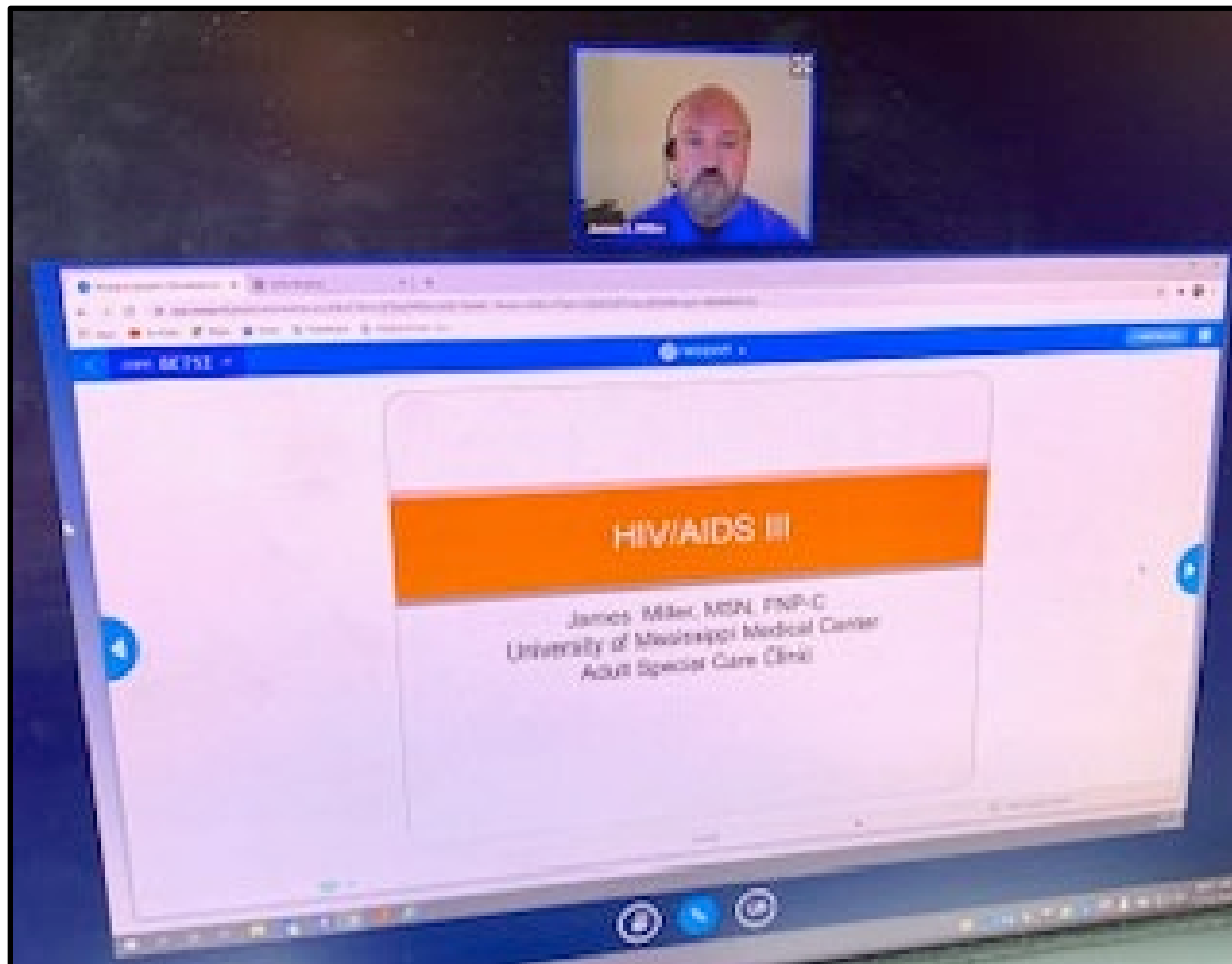
Gender
80% Female
6% Male
13% No
Answer

Race
77% White
10% Black
3% Asian
10% No
Answer

**Previous
Degree**
17% Biological
Sciences

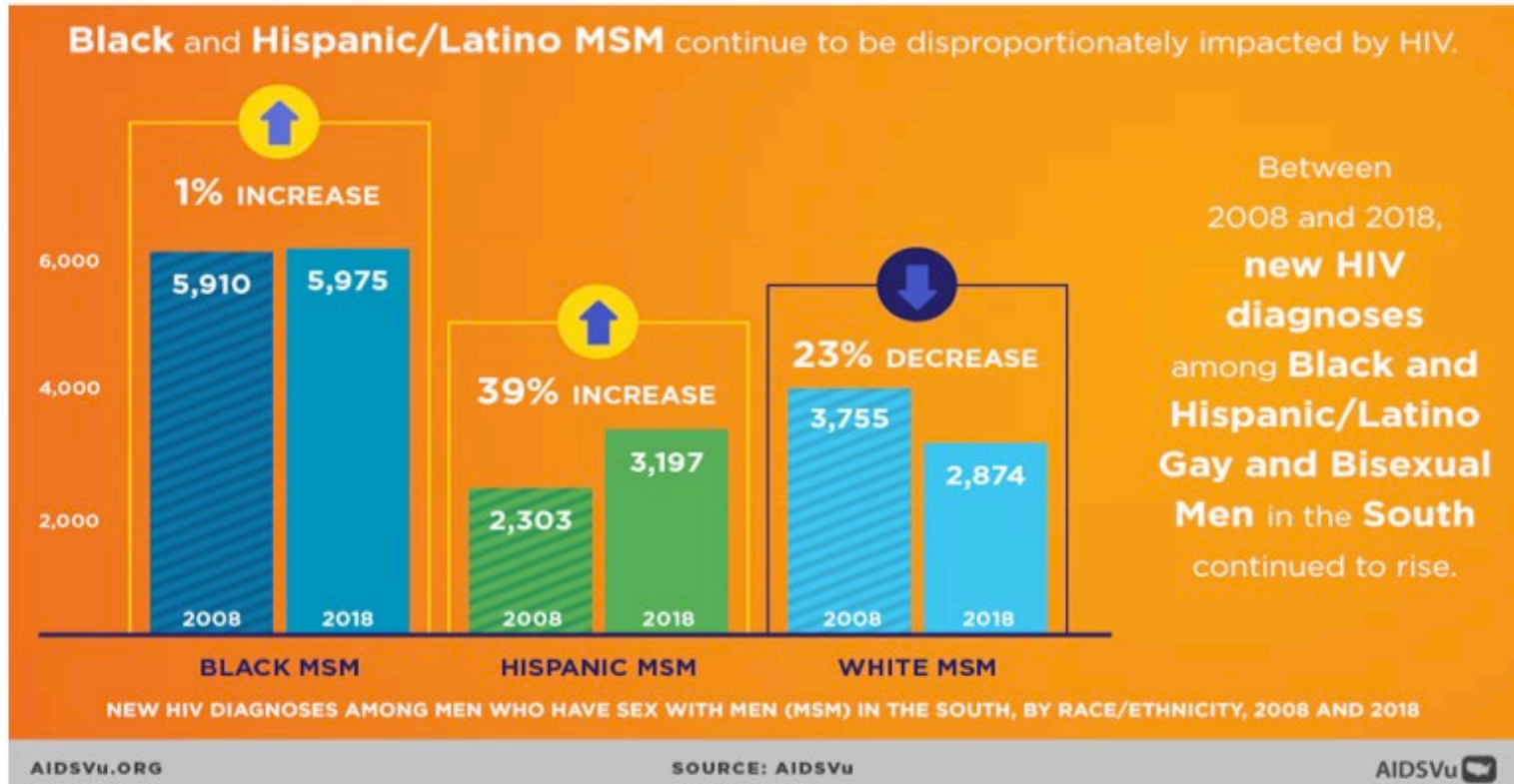
**Marital
Status** 63%
Single 27%
Married 10%
No Answer

Educational Intervention



Educational Intervention

HIV in Southeast



(Center for AIDS Research at Emory University, [n.d.](#))

Educational Intervention

The nurse is caring for a patient newly diagnosed with HIV. The patient asks what would determine the actual development of AIDS. The nurse's response is based on the knowledge that what is a diagnostic criterion for AIDS?

Student	A	B	C	D

Educational Intervention

Case Study

Ms Jones has been HIV positive for 27 years and has never taken medication. When asked why she says, “I have seen too many people get on HIV medication, get sick, and die.” She says that she feels fine and she is not interested in taking medication. Last viral load was 389,492 and last CD4 was 52. She has no known opportunistic infections.

Why is she at risk for OI?

When should she start taking ART?

Is her partner at a higher risk for contracting HIV?

Educational Intervention



<https://www.youtube.com/watch?v=NZ9vg-RXZUM&t=13s>

(Centers for Disease Control and Prevention, 2013)

Data Analysis

Questions from the instrument created by Carey and Schroder (2002) were designed to investigate three distinct domains.

1. HIV transmission
2. HIV prevention
3. Signs and symptoms of acute HIV infection

Test questions were counted correct if the accurate response was chosen, while questions that were answered incorrectly or “I don’t know” were marked as incorrect.

Overall, knowledge level related to the 18 questions, each question equaling one-point value

Data Analysis - Total Instrument Score

Total Instrument Score	Pre-test Mean	Post-test Mean	Mean Difference	P-value
Calculations	13.83	17.37	3.54	Less than 0.001

Resulting *p*-value shows a highly significant improvement in student's knowledge. $0.001 \leq 0.05$

Overall knowledge significantly improved.

(Carey and Schroder, 2002)

Data Analysis - Stratified Groups

Basic knowledge related to “HIV Transmission”

Transmission Questions	Pre-test Mean	Post-test Mean	Mean Difference	<i>P</i> -value
Calculations	22.8	29.1	6.3	0.01

Basic knowledge related to HIV Transmission showed significant improvement with $0.01 \leq 0.05$

Basic transmission knowledge improved.

(Carey and Schroder, 2002)

Data Analysis - Stratified Groups

Basic knowledge related to “HIV Transmission”

Sample Questions - Transmission

Coughing and sneezing DO NOT spread HIV. T=22, F= 4, IDK=4

A person can get HIV by sharing a glass of water with someone who has HIV. T=3, F=23, IDK=4

Pulling out the penis before a man climaxes keeps a women from getting HIV during sex. F=29, IDK=1

People are likely to get HIV by deep kissing, putting their tongue in their partner's mouth, if the partner has HIV. T=8, F=17, IDK=5

A person can get HIV by sitting in a hot tub or a swimming pool with a person who has HIV. T=2, F=17, IDK=11

(Carey and Schroder, 2002)

Data Analysis - Stratified Groups

Basic knowledge related to “HIV Prevention”

Prevention Questions	Pre-test Mean	Post-test Mean	Mean Difference	<i>P</i> -value
Calculations	23.14	28.57	5.43	0.05

Basic knowledge related to HIV Prevention showed significant improvement with $0.05 \leq 0.05$

Overall basic prevention knowledge improved.

(Carey and Schroder, 2002)

Data Analysis - Stratified Groups

Basic knowledge related to “HIV Prevention”

Sample Questions - Prevention

Showering, or washing one’s genitals/private parts, after sex keeps a person from getting HIV. F=27, IDK=3

There is a vaccine that can stop adults from getting HIV. T=2, F=21, IDK=7

Having sex with more than one partner can increase a person’s chance of being infected with HIV. T=30

There is a female condom that can help decrease a women’s chance of getting HIV. T=20, F=1, IDK=9

A person will NOT get HIV is she or he is taking antibiotics. F=25, T=5

(Carey and Schroder, 2002)

Data Analysis - Stratified Groups

Basic knowledge related to “Signs and Symptoms”

Signs & Symptoms Question	False	I Don't Know
Calculations	25 (83.3%)	5 (17%)

Sample Questions - Signs & Symptoms

People who have been infected with HIV quickly show serious signs of being infected.

(Carey and Schroder, 2002)

Data Analysis

The instrument developed by Genberg et al. (2009) are stratified into groups that measure:

1. Attitude
2. Perceived discrimination
3. Health and social equity for PLWH

Responses to statements were based on a five-item Likert scale, using the following values: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, 5 = Strongly Agree.

Of the 18 questions on the instrument, four questions showed statistical differences in the pre and post-test scores, suggesting an improvement in students' level of compassion toward PLWH.

Data Analysis - Stratified Groups

Questions related to “Attitudes”

Attitude Questions	Pre-test Mean	Post-test Mean	Mean Difference	P-value
People living with HIV/AIDS should be ashamed.	1.31	1.10	0.21	0.012 $0.012 \leq 0.05$

Pre - 7 “disagreed” - 21 “strongly disagreed” - 1 “neither agree nor disagree”

Post - 3 “disagreed” - 27 “strongly disagreed”

The post-test data suggests that students felt more compassion towards PLWH after the comprehensive educational intervention.

Data Analysis - Stratified Groups

Questions related to “Attitudes”

Attitude Questions	Pre-test Mean	Post-test Mean	Mean Difference	P-value
People who have AIDS are disgusting.	1.28	1.10	0.18	0.023 $0.023 \leq 0.05$

Pre - 6 “disagreed” - 22 “strongly disagreed” - 1 “neither agree nor disagree” - 1 “no answer”

Post - 3 “disagreed” - 27 “strongly disagreed”

The post-test data suggests that students felt more compassion towards PLWH after the comprehensive educational intervention.

(Genberg et al., 2009)

Data Analysis - Stratified Groups

Questions related to “Perceived Discrimination”

Attitude Questions	Pre-test Mean	Post-test Mean	Mean Difference	P-value
People living with HIV/AIDS in this community face physical abuse	3.55	3.93	0.38	0.009 $0.009 \leq 0.05$

Pre - 3 “strongly agree” - 14 “neither agree nor disagree” - 11 “agree”

Post - 8 “strongly agree” - 9 “neither agree nor disagree” - 11 “agree”

Results illustrated a possible lack of social awareness that exists regarding discrimination toward PLWH

Data Analysis - Stratified Groups

Questions related to “Perceived Discrimination”

Attitude Questions	Pre-test Mean	Post-test Mean	Mean Difference	P-value
People living with HIV/AIDS in this community face neglect from their family	3.76	4.17	0.41	0.02 $0.02 \leq 0.05$

Pre - 5 “strongly agree” - 7 “neither agree nor disagree” - 15 “agree”

Post - 10 “strongly agree” - 3 “neither agree nor disagree” - 16 “agree”

Results illustrated a possible lack of social awareness that exists regarding discrimination toward PLWH

Data Analysis - Stratified Groups

Questions related to “Health and Social Equity”

No statistical difference found

Sample Questions - Health and Social Equity

People with AIDS should be treated similarly by health professionals as people with other illnesses.

People with HIV should be allowed to fully participate in social events in this community.

A person with AIDS should be allowed to work with other people.

People who have HIV/AIDS should be treated the same as everyone else.

(Genberg et al., 2009)

Student Survey

Question	Student Score
The instructor was well prepared for this module.	27 “strongly agreed” 3 “agreed”
The instructor showed an interest in helping us learn.	29 “strongly agreed” 1 “agreed”
The course materials complemented each other.	28 “strongly agreed” 2 “agreed”
The course was organized in a manner that helped me understand the concepts	27 “strongly agreed” 3 “agreed”
The instruction and resources increased my knowledge in the subject matter.	28 “strongly agreed” 2 “agreed”
I believe that what I am being asked to learn in this course is important.	28 “strongly agreed” 2 “agreed”
This module gave me more desire to learn about the subject.	24 “strongly agreed” 4 “agreed”

Student Comments

Student Comments

I really enjoyed this module and think there should be more opportunities like this and more education on this type of material. Thank you for this and thank you for sharing.

Thank you so much for teaching us and giving me a new perspective on people living with HIV and AIDS.

This was great! My only suggestion is doing this earlier in the program. Many students are burnt out and would probably pay deeper attention if it were sooner in the year.

This was great! My only suggestion is doing this earlier in the program. Many students are burnt out and would probably pay deeper attention if it were sooner in the year.

I enjoyed learning more about HIV/AIDS. There is a huge stigma around HIV/AIDS and these two days have helped me recognize my previous bias and I am grateful for the opportunity to learn from Mr. Miller and hear from people who are and have been living with HIV for years. I am thankful for all of the knowledge that I gained over this week. Thank you!

Instructor was very enthusiastic about the subject matter, which was contagious. Enjoyed the honest communication with HIV survivors. Before it started, I wanted to feel sorry for them. I am old enough to remember all the stigma attached to HIV/AIDS... so I may have a different perspective than the younger members of the class. Their open and honest communication helped me to understand that they do not want my pity... just my respect.”

Thank you for setting up the panel with the individuals living with HIV. It can be very easy to dehumanize diseases when learning about them. It was extremely helpful to hear their thoughts and feelings, and I will definitely take what I learned from them and this module into my practice.

Solution/Product

The HIV Education Instructor's Guide to “H” is for Human will be used as an educational tool to support academic curriculum or co-curricular activities regarding HIV/AIDS which includes the use of PLWH as guest panelists.

The guide has been modified to address all health professionals (IPE focus), provides a step-by-step process to guide the user, and contains all didactic content from original presentation, including objectives, case studies, audiovisual links, and references.

Instructor's Guide



HIV – The “H” Stands for HUMAN

Instructor's Guide
Course Objectives, Case Studies, Questions, and Didactic Content

Implementation



- Implementation Plan



- Instructor's Guide



- Product Format



- Limitations



- Recommendations for Future Research

Discussion

Misconceptions regarding HIV transmission and incorrect HIV information cause stigma and discrimination toward people living with HIV (PLWH), and these findings suggest that robust educational curriculum, with the inclusion of HIV-related stigma reduction content, might potentially decrease stigma by healthcare professionals (Kok et al., 2018; Pickles et al., 2012; Suominen et al., 2015).

Although this study focused on accelerated pre-licensure nursing students, the content and format may be beneficial for other medical disciplines to enhance inter-professional education (IPE) opportunities locally.

Literature review of other healthcare providers revealed deficiencies in other programs (Geter, Herron, and Sutton, 2018; Parish and Santella, 2018; Rathbun, Durham, Farmer, Zuckerman, and Badowski, 2020)

Discussion

The first step in reducing health inequities, and fostering trust between providers and their patients is the inclusion of all people in health education (Josiah Macy Jr. Foundation, 2020).

Therefore, inclusion of HIV-related educational opportunities, with PLWH as part of the program, such as the one presented in this presentation may help to advance knowledge of health professionals, while decreasing stigma and discrimination for PLWH.

Implementation Plan

“H is for Human” Instructor's Guide: Includes learning objectives, case studies, audiovisual links, and all didactic content that was created by the investigator to assist health care programs at UMMC to augment basic knowledge of HIV transmission, prevention strategies, and bias and discrimination against PLWH and LGBTQ persons.

Invitation from School of Nursing: The UMMC SON has invited the investigator to teach the Immunity Module in the fall semester 2021.

Implementation Plan

Invitation from Mississippi AIDS Educational Training Center:

To present data findings on June 30, 2021 in Webinar.

Potential opportunity to teach in HIV 101 course for nurses, nurse practitioners, and social workers in fall of 2021.

Online Development for Co-curricular Catalog at UMMC:

Academic Affairs is planning to develop a list of self-paced independent learning opportunities for students in all schools at UMMC. Students who participate in co-curricular learning have the opportunity to advance their knowledge about topics that may not be included in their formal curriculum.

IPE: Inter-professional Education development for students currently enrolled at colleges through co-curricular courses.

Implementation Plan-Instructor's Guide



HIV – The “H” Stands for HUMAN

Instructor’s Guide
Course Objectives, Case Studies, Questions, and Didactic Content

Implementation Plan-Instructor's Guide

I. INTRODUCTION

A. Overview

HIV – The “H” Stands for HUMAN

Course Description: This instructor’s guide includes course objectives with case studies that have been collected from The Adult Special Care Clinic (ASCC) at the University of Mississippi Medical Center (UMMC) in Jackson, Mississippi (MS). The guide also includes didactic content in a PowerPoint slide format and questions for student engagement. The initial presentation was provided to accelerated pre-licensure Bachelor of Science in Nursing (BSN) students as part of their academic coursework during fall semester 2020. There are 3-hours of didactic content with interactive case studies and a 1-hour panel discussion that features people living with human immunodeficiency virus (PLWH) as patient panelists.

HIV-The “H” Stands for Human: is a module designed to teach students basic knowledge about HIV transmission and prevention strategies, as well as provide face-to-face interaction with people living with HIV (PLWH), which may potentially decrease HIV-related stigma or discrimination.

Learners may be from different health profession programs; therefore, instructors may adjust some content to provide what is required for each program of study.

The module is divided into five topics that will address course objectives. The case studies were derived from Mississippians who attend the ASCC where they receive specialized HIV care.

B. Target Audience

Healthcare professional students from the seven schools at UMMC; medicine, nursing, dentistry, health related professions, graduate studies, population health, and pharmacy would benefit from this coursework as a supplemental educational intervention. Additional learners may include health professionals in practice, including providers and faculty from health care institutions.

C. Disclaimer

Case studies are based on actual patient scenarios from the ASCC HIV clinic at UMMC. Individual’s names, age, and details of the patient visit have been changed to protect patient identity.

Implementation Plan-Instructor's Guide

II. Module Topics and Learning Objectives with Corresponding Case Studies

History and Stigma of HIV

- d. Review the history of HIV as a worldwide pandemic.
- e. Discuss how HIV stigma can adversely impact individuals living with HIV.

Case Study 1	Prompts for Group Discussion
Mr. Smith is a 36 yo straight male and has recently presented to the clinic for treatment. His wife is also positive and attends the clinic regularly. He has never received HIV care. He works as a police officer and believes that if he “eats right and works out, he can beat this.” He is embarrassed and private about his diagnosis. He has never received care, because he is afraid that someone may find out about his diagnosis.	<ul style="list-style-type: none">- What type of stigma would prevent him from receiving care?- Would he be stigmatized if co-workers were aware of his diagnosis?- How might stigma impact his job as a police officer?- Can eating right and working out prevent disease progression?

Pathogenesis

- f. Discuss the basic pathogenesis of HIV
- g. Discuss the primary prevention of HIV in adults and neonates

Case Study 2	Prompts for Group Discussion
Ms. Silver is a 19 yo bisexual female who presents to the clinic newly diagnosed with HIV. She has recently found out that she is 6 weeks pregnant. She cannot believe that she is HIV positive and pregnant. She is frightened and worried about her baby.	<ul style="list-style-type: none">- What should she know about delivering a healthy baby?- Why is it important for her to know how HIV is transmitted?- Given her positive pregnancy, should she begin HIV medications?- When should she consider starting HIV medications?

Implementation Plan-Instructor's Guide

III. Suggested Didactic Content

I. History and Stigma of HIV

PowerPoint Presentation One

History of HIV

- Human immunodeficiency virus (HIV) was first discovered in the United States in 1981 (United States Department of Health and Human Services [HHS], 2020).
- First cases were young gay men who have sex with men (MSM) who developed Pneumocystis pneumonia (PCP) and Karposi Sarcoma (KS), a rare skin cancer (Montagnier, 2010).
- Worldwide more than 74 million people have been infected, and 32 million have died from acquired immunodeficiency syndrome (AIDS) related illnesses (Markel, 2020).

History of HIV₂

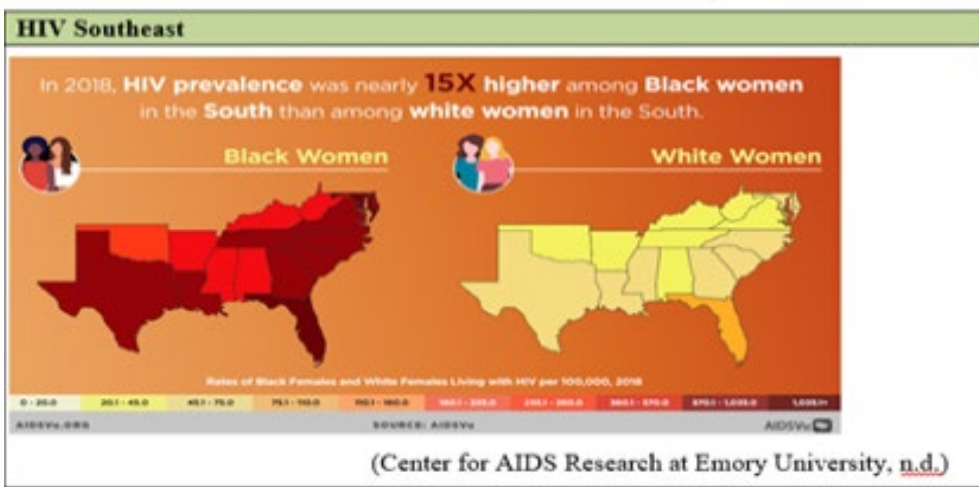
- No medications approved to treat HIV until 1987 (De Clercq, 2009).
- First drug approved to treat HIV/AIDS was zidovudine (Retrovir or AZT) (HHS, 2020-e).
- HIV has become one of the most significant health problems in the world (Akansel, Aydin, Ozdemir, & Tore, 2012; Dharmalingam, Poreddi, Ganhi, & Chandra, 2015; Kok, Guvenc, & Kaplan, 2018; Leyva-Moral et al., 2017).

History of HIV₃

Where did HIV come from?

- HIV infection in humans came from a type of chimpanzee in Central Africa.
- The chimpanzee version of the virus (called simian immunodeficiency virus, or SIV) was probably passed to humans when humans hunted these chimpanzees for meat and came in contact with their infected blood.
- Studies show that HIV may have jumped from chimpanzees to humans as far back as the late 1800s.
- Over decades, HIV slowly spread across Africa and later into other parts of the world. - We now know that the virus has existed in the United States since at least the mid to late 1970s before we knew what it was (Centers for Disease Control and Prevention [CDC], n.d.).

Implementation Plan-Instructor's Guide



Video / HIV Stigma

<https://www.youtube.com/watch?v=Ig-g4FNTrP4>

(Centers for Disease Control and Prevention, 2013)

References

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Implementation Plan-Instructor's Guide

II. Pathogenesis / Transmission and Prevention

PowerPoint Presentation Two

Objectives

- Discuss basic pathogenesis of HIV.
- Discuss the primary prevention of HIV in adults and neonates
- Identify transmission risks.
- Identify prevention strategies.

Pathogenesis – Questions to Consider

- How does the virus target and destroy the immune system?
- How does the virus replicates in the immune system?

Implementation Plan-Instructor's Guide

Pathogenesis₄ - Replication

Life Cycle

1.) HIV **binds** to CD4 receptor on the human T-cell and **and** the chemokine co-receptor CXCR4 or CCR5.

2.) Viral **fusion** to T-Cell and viral RNA is released into the host cell.

3.) **Reverse transcriptase** converts viral RNA into viral DNA.

4.) Viral DNA enters the T-cell's nucleus and **integrates** itself into the T-cell's DNA.

Pathogenesis₅ - Replication

Life Cycle

5.) The T-cell begins to **replicate** viral components of HIV.

6.) Protease (an enzyme) helps **assemble** new virus particles.

7.) The HIV **virion** (virus particle) is released from the T-cell in a step called **budding**.

Implementation Plan-Instructor's Guide

III. Acute/Chronic Infection and Diagnosis/Treatment

PowerPoint Presentation Three

Objectives

Contact with Blood Products:

- Discuss the impact of HIV on CD4 cells and immunity.
- Compare acute & chronic manifestations of HIV.
- Define the clinical diagnosis of HIV
- Highlight treatments for HIV
- Recognize common side effects of antiretroviral therapy (ART)

Diagnosis – Questions to Consider

Contact with Blood Products:

- How is HIV diagnosed?
- What tests can be used for diagnosis?
- Who should get tested for HIV?
- What are recommended HIV screenings (secondary prevention)?

Diagnosis - Testing

Who does the CDC recommend get tested?

- Everyone between the ages of 13 and 64 get tested for HIV at least once as part of routine health care with high risk groups getting tested more frequently
- High risk groups should get tested more often ~ 3-6 months

Why is important to get tested?

- Knowing your HIV status gives you powerful information to help you take steps to keep you and your partner healthy
- Knowing your HIV status can save your life or someone else's life

(Centers for Disease Control and Prevention, [n.d.](#))

Implementation Plan-Instructor's Guide

IV. PLWH Patient Panelists

Face-to-face Questions with Patient Panelists

Patient Panelists

Patient panelists were asked before the lecture to volunteer to share their knowledge of HIV and what it is like to live as an HIV positive person. Students submitted questions after the second PowerPoint presentation. The instructor facilitated the interaction by asking questions and allowing volunteer patient panelists to answer the questions that they were comfortable answering. Student submitted ample questions are listed below.

- I guess I would want to know how they approach dating or marriage after their diagnosis.
- Do they find this to be difficult to discuss with a new partner?
- Is it something you would bring up immediately or do you have a few dates and then bring this up?
-
- What resource(s) have been most beneficial to you since your diagnosis?
- What would you teach others about HIV?
- How has your life changed since your diagnosis?
- What were your first clinical manifestations of HIV?
- Has having HIV affected your quality of life significantly? In what ways has it altered your daily activities?
- Have you been treated differently by friends, family members, co-workers, etc.?
- If so, how have you overcome the negative stigma associated with HIV?
- What is the hardest part about living with your diagnosis?
- What is something that you want healthcare providers to know about your condition and about how you want to be treated?
- What do you experience as the main "stigma" from the general public?

Product Format

- *HIV - The “H” stands for Human* has been designed as a four-hour training session, which will include PLWH as guest panelists for the last hour.
- Training will take place in a face-to-face classroom setting, but can be modified to a virtual setting.
- Ideally, face-to-face interaction with PLWH is recommended to enhance the personal connection that students may experience.

Limitations

- *Height of COVID pandemic with all classes held virtually.*

May have had better participation if held in live environment

- *Final response after data clean-up was N=30 of 65 potential participants.*
- *Instrument by Genberg et al. (2009) included questions that were originally written for underdeveloped countries and not for students seeking a degree as a health professional.*

This likely caused a positive shift in results regarding attitudes, discrimination, and equity of PLWH.

Recommendations for Future Research

- Development of assessment instrument designed for health professionals only.
- Face-to-face learning would be best for this type of instruction, especially the interaction with PLWH.
- An in-person environment may yield an higher participation number.
- Duplicate program with students from other schools in an interprofessional activity, possibly with a follow-up debriefing with students from multiple professional programs.

Conclusion

Is there a significant increase in the knowledge level of accelerated pre-licensure nursing students regarding HIV transmission and HIV prevention strategies after completion of a comprehensive supplemental educational intervention?

Yes, Students showed a significant increase in knowledge related to HIV transmission and prevention.

Conclusion

Is there a significant difference in accelerated pre-licensure nursing student's attitudes, perception of discrimination, and the health and social equity of PLWH after completion of a comprehensive supplemental educational intervention?

Four questions regarding attitudes and discrimination revealed a significant difference, which suggests that overall students' level of empathy for PLWH increased.

Questions



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Educational Intervention to Reduce Stigma of Nursing Students Toward People Living with HIV

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BACKGROUND

- Since the discovery of human immunodeficiency virus (HIV) in 1981, more than 74 million people worldwide have been infected, and 32 million have died from acquired immunodeficiency syndrome (AIDS)-related illnesses (Markel, 2020).
- With advances in antiretroviral therapy (ART), people living with HIV (PLWH) are living longer than before (Fitch, 2019; Gallant et al., 2017) and have a higher risk of developing heart disease, kidney disease, liver disease, osteopenia, osteoporosis, and cancers that are not related to their HIV/AIDS diagnosis (Fitch, 2019; Lerner et al., 2020).
- Stigma is defined as a characteristic or element that is viewed negatively by the public (Holzemer et al., 2009). Additionally, stigma associated with HIV and AIDS remains a barrier to health care and may cause poor health outcomes due to the avoidance of clinical care (Christopoulos et al., 2018).
- People living with HIV who are not engaged in routine clinical care and have sustained elevated levels of virus create a nationwide health concern that places uninfected sexual partners at a higher risk of HIV infection. It is estimated that greater than 60% of new infections stem from those patients who have been lost-to-care and are not taking ART (Colasanti, Stahl, Farber, Del Rio, & Armstrong, 2017).

Problem

- HIV transmission rarely occurs from patient to healthcare provider, but there may be fear of contracting HIV/AIDS. The perceived fear might originate from inadequate knowledge and may perpetuate stigma/discrimination.
- Many health care providers, including nurses, may not be provided educational opportunities to increase knowledge of HIV and practice unbiased care, which could perpetuate stigma or discrimination through inappropriate actions or words.

PURPOSE

To determine if a comprehensive supplemental educational intervention for accelerated pre-licensure nursing students, provided by an HIV nurse practitioner with panelists living with HIV, produces a significant increase in basic HIV transmission/prevention knowledge and a significant difference in attitudes, perceived discrimination, and equitable treatment for PLWH.

METHODS

Pre-test

Knowledge Attitudes/Discrimination/Equity

Comprehensive Educational Intervention

Didactic Content People Living with HIV

Post-test

Knowledge Attitudes/Discrimination/Equity

Figure 1. The investigation used a pre-test for baseline measurements of nursing student's prior HIV transmission knowledge, HIV prevention strategies, attitudes, perceived discrimination, and beliefs regarding health and social equity for PLWH. An educational intervention was implemented during the investigation to provide the students with a comprehensive supplemental HIV/AIDS educational intervention by an HIV nurse practitioner and interaction with PLWH. The same assessment was used as the post-test to determine any significant difference from baseline pre-test scores.

EDUCATIONAL INTERVENTION



Figure 2. This photo was taken during the comprehensive educational intervention. The photo shows the instructor (far left) and patient volunteer panelists. Students submitted questions prior to the session and the instructor facilitated the panel discussion by asking questions anonymously.

RESULTS

Eighteen questions measured HIV knowledge and each counted one point. The mean pre-test and post-test was 13.83 and 17.37, respectively. The mean difference was 3.54. The resulting *p*-value from a paired *t*-test was less than 0.001, which shows a highly significant improvement. Additionally, student responses on four questions regarding attitudes, discrimination, and health and social equity resulted in a significant difference, which suggested that students' level of empathy for PLWH increased.

Total Instrument Score	Pre-test Mean	Post-test Mean	Mean Difference	<i>P</i> -value
Calculations	13.83	17.37	3.54	Less than 0.001

Figure 3. These calculations illustrate a significant increase in knowledge related HIV transmission and HIV prevention after the comprehensive educational intervention and interaction with patients living with HIV. The level of significance was set at $\alpha \leq 0.05$, which is commonly used.

CONCLUSION

- Is there a significant increase in the knowledge level of accelerated pre-licensure nursing students regarding HIV transmission and HIV prevention strategies after completion of a comprehensive supplemental educational intervention?
- Yes. Students realized a significant increase on knowledge related to HIV transmission and prevention.**
- Is there a significant difference in accelerated pre-licensure nursing student's attitudes, perceived discrimination, and the health and social equity of PLWH after completion of a comprehensive supplemental educational intervention?
- Four questions regarding attitudes, discrimination, and health and social equity revealed a significant difference, which suggests that overall students' level of empathy for PLWH increased.**

IMPLEMENTATION

- "H is for Human" Instructor's Guide:** Includes learning objectives, case studies, audiovisual links, and all didactic content that was created by the investigator to assist health care programs at UMMC to augment basic knowledge of HIV transmission, prevention strategies, and bias and discrimination against PLWH and LGBTQ persons.
- Invitation from School of Nursing:** The UMMC SON has invited the investigator to teach the Immunity Module in the fall semester 2021.
- Invitation from Mississippi AIDS Educational Training Center:** To present data findings on June 30, 2021 in Webinar. Potential opportunity to teach in HIV 101 course for nurses, nurse practitioners, and social workers in fall of 2021.
- Online Development for Co-curricular Catalog at UMMC:** Academic Affairs is planning to develop a list of self-paced independent learning opportunities for students in all schools at UMMC. Students who participate in co-curricular learning have the opportunity to advance their knowledge about topics that may not be included in their formal curriculum.
- IPE:** Interprofessional Education development for students currently enrolled at UMMC through co-curricular courses.

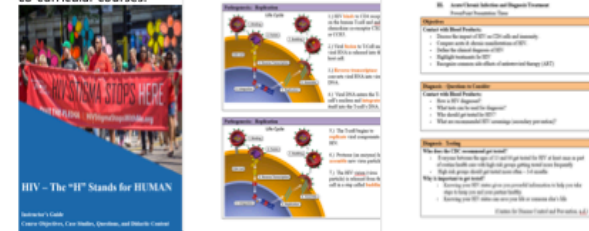


Figure 4. Shows the cover and sample information included in the Instructor's Guide, which aims to provide the educational format and all content to make the course easily reproducible for any audience of health professionals.

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