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A Public Health Critical Race Praxis Approach to Anti-Racism in Nursing Academia

Nawaf Alfaouri
Seattle University

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A doctoral project submitted in partial fulfillment

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Doctor of Nursing Practice

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Chair: Jennifer Fricas, PhD, MPH, RN

Approved By: Michael L. Huggins Date: June 10, 2022

Reader: Michael Huggins, PhD, EdD, APRN, FAANP

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Land Acknowledgment

I acknowledge that we are on the traditional land of the first people of Seattle, the Duwamish People past and present and honor with gratitude the land itself and the Duwamish Tribe.

Content Warning

Material in this study contains triggering topics and events, such as racialized violence, bodily injury in healthcare, and unethical healthcare scenarios. If you are reproducing works from this study, please include a content warning.

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Abstract

Structural racism persists through every level of society, from housing, economic participation, education, criminal justice, access to healthcare, to poor healthcare outcomes. A critical dimension of structural racism is the persistent normalization of negative racial attitudes towards people of color, a manifestation of which is negative and harmful racist stereotypes presented in media, literature, and outdated medical knowledge. Internalization of structural racism gives rise to implicit and explicit bias towards different racial groups which poses health risks to patients of color. Studies have shown that health disparities persist for people of color even when controlling for socioeconomic differences among races, highlighting the harm of racial bias. A survey of 15 cross-sectional studies found that most healthcare providers carry a negative implicit bias towards patients of color and a positive implicit bias towards White patients. These harmful negative racial attitudes exist in medical and nursing academia, and novel efforts to address implicit bias are ongoing. There exists a large knowledge gap between social determinants of health and structural racism. Implementing a case-study workshop to address implicit bias among nursing faculty and their curriculums are a low-cost and effective method to close this gap. The purpose of this project is to address implicit bias in nursing academia through a Public Health Critical Race Praxis framework as faculty are directly responsible for preparing nurses and clinicians of the future for a diverse patient population.

Keywords: Public Health Critical Race Praxis, Critical Race Theory, anti-racism, nurse practitioner, nursing school, race, racism, social determinants of health,

Introduction

America has been grappling with racialized violence since its inception, with the most recent example being a White supremacist terror attack that took the lives of ten African American patrons of a grocery store in Buffalo, New York (Thompson et al., 2022). While events of explicit racism and violence are clearer to name and study, such as the Tulsa massacre, Jim Crow era lynchings of African Americans, or the genocide of Native Americans, the intertwined fabric of structural racism can be fatally pervasive and elusive. Racial disparities in healthcare have come to public attention in the past decade due to the persistence in poor health outcomes for non-White patients (Wilkins et al., 2021), such as African American maternal mortality rates being 3.5 times higher than White maternal mortality rates, even after adjusting for socioeconomic factors (Macdorman, 2021). The focus on addressing health disparities in healthcare curricula often use Social Determinants of Health (SDOH) as proxies of poor health outcomes, but rarely on race or racism as a causative factor (Burnett-Bowie & Bachmann, 2021) SDOH are the conditions in which individuals are born, live, learn, work, and play in. These conditions are associated with an individual's health (Burnett-Bowie & Bachmann, 2021). After adjusting for socioeconomic status, empirical analysis shows that at every level of income and education, African Americans have a lower life expectancy at age 25 than Whites, and African Americans with a college degree or more education have a lower life expectancy than Whites who graduated from high school. The persistence of racial differences in health outcomes even after adjusting for SDOH lies in racism itself, and perceptions of race (Braveman et al., 2010). Perceptions are learned schema, and academic and healthcare institutions have had a considerable role in designing schema and contributing to the disparities experienced by

marginalized patients. As late as the mid-1960s, open segregation infected all organs of the US health care system. Hospitals, medical schools, and nursing schools were segregated nationally, and in many places, segregation was legally sanctioned (Largent, 2018). Public perceptions of racism created an environment of violence, where well into the 20th century, unethical health research and experimentation conducted on African Americans and other marginalized groups continued, such as the US Public Health Service studying of untreated syphilis in African American men between 1932 to 1972 (Alsan & Wanamaker, 2018), the forced sterilization of over 3000 Native American women by the Indian Health Services in the 1970s (Pacheco et al., 2013), or the covert mustard gas and poisonous chemical experiments on Black soldiers during World War II (Washington, 2006).

An example of racist medical perceptions produced within the halls of medical academia include Dr. Samuel Cartwright, a 19th century American physician, who wrote that African Americans experienced a "Negro disease [making them] insensible to pain when subjected to punishment" (Cartwright, 2004), while other physicians believed African Americans could tolerate surgical operations with little to no pain at all (Pernick, 1985). These beliefs and their effects are often taught in medical and nursing school curriculums as relics of the past, yet a 2016 study published in the *Proceedings of the National Academies of Science* revealed that half of medical students believed that "black people's skin is thicker than White people's," and medical trainees who believed African Americans were less susceptible to pain were undertreating pain in their residency care plans (Hoffman et al., 2016, p. 3). Historically, the schema of racial bias is both molded, survived, and challenged by healthcare academic institutions (Lim et al., 2021). Legacies of racism have survived into the clinical experience

today. In a systematic review of 23 studies involving 1006 participants, non-White patients claimed to experience sensations that providers lack empathy, express White racial supremacy, non-White racial alienation, stereotyping, and labelling. Provider perspectives in these studies expressed the common view that providers perpetuate racial fault lines (Sim et al., 2021). The healthcare profession is grounded in morality, and reaffirmed through the Hippocratic Oath (Hajar, 2018), the American Nursing Association's code of ethics (American Nurses Association, 2015), and the American Medical Association's code of ethics (American Medical Association, 2016). Through an ethical lens, medical and nursing schools have a responsibility to prepare students to address racial biases that persist within healthcare academia and the clinical setting (Varkey, 2021).

Literature Review

Defining Racism and Levels of Racism

Race is an arbitrary social category based on phenotype, ethnicity, nationality, or other social differences that creates different access to resources and power in a society. Racism is an organized social system where the dominant racial group, based on the ideology of inferiority, categorizes and ranks people into social groups of races to devalue, disempower, and differentially allocate societal resources and opportunities to groups defined as inferior (Williams & Mohammed, 2013). There are multiple levels of racism in society (Williams & Mohammed, 2013). One level of racism is stereotyping, where cultural agencies within a society socialize the population to accept the inferiority of non-dominant racial groups leading to negative normative beliefs. A product of stereotyping is prejudice, an attitude towards stigmatized racial groups that

underpin differential treatment of members of these groups by both individuals and social institutions (Williams & Mohammed, 2013).

A key characteristic of racism is that the ideology and structure of racism can persist in academic, governmental, and institutional policies in the absence of individual actors who are explicitly racially prejudiced (Bailey et al., 2017). Racism interacts with other social institutions as a structured system, shaping them and being shaped by them to justify, reinforce, and perpetuate racial hierarchy. By doing this, racism has created a set of interdependent and dynamic subsystems that reinforce each other, creating and sustaining reciprocal causality of racial inequities across a multitude of sectors (Reskin, 2012). Structural racism is reinforced and supported by multiple societal systems including education, criminal justice, housing, labor, credit markets, and healthcare systems. Racism adapts over time but maintains its pervasive adverse effects through multiple structural mechanisms that arise to replace forms that have been diminished (Phelan & Link, 2015).

Environmental Racism and Health

Environmental and physical forms of structural racism, such as residential segregation or the criminal justice system, remain the most widely studied forms of racism (Williams et al., 2019). Racial residential segregation refers to the occupancy of different neighborhood environments by race. The physical segregation of races in residential areas, including the forced removal and relocation of American Indians, was shaped by multiple social institutions as late as the 1970s (Hahn et al., 2018). Methods to segregate races included forced removal, discriminatory zoning, red-lining, mortgage discrimination, and restrictive covenants intended to separate White Americans from non-White Americans (Hahn et al., 2018). Racial segregation,

initially established by U.S. federal law, has continued through other institutional policies (Hahn et al., 2018). As late as the 1950s, realtor policies from the National Association of Real Estate Brokers recommended that:

> "The realtor should not be instrumental in introducing into a neighborhood a character of property or occupancy, members of any race or nationality or any individual whose presence will clearly be detrimental to property values in the neighborhood" (United States Commission on Civil Rights, 1973).

Although the Fair Housing Act of 1968 made segregation illegal, the enforcement and implementation of this law remained a difficult task. Structurally, racial discrimination practices in housing remained intact and continues through private sector practices and gentrification (Hahn et al., 2018; Schnake-Mahl, 2020).

Segregation affects health in multiple ways. Research has found that segregation reduces economic status in adulthood by reducing access to quality elementary and high school education, preparation for higher education, and employment opportunities (Williams & Collins, 2001; Hahn et al., 2018). Segregation is responsible for the large and persistent racial differences in social economic status today. In 2016, for every dollar of income that a White household made, African Americans made 61 cents and Hispanic Americans made 73 cents (Semega et al., 2017). Segregation creates communities of concentrated poverty where both government and private sectors show disinterest and divestment from these communities (White & Williams, 2012). Government and private sector divestment in ethnic-minority neighborhoods exacerbates the outcomes of segregation, the sequalae of which include decreased access to economic

opportunities, elevated exposure to hazardous chemicals, acute psychosocial stressors, lower market value of homes, decreased access to high quality primary and specialty care, and even decreased access to pharmacies (White & Williams, 2012). In a systematic review of 20 studies, evidence concluded that racialized economic segregation is strongly associated with increased risk of a range of negative health outcomes in racial and ethnic minority populations. Segregation increased the risk of preterm birth, infant mortality, maternal death and morbidity, cancer, hypertension, COVID-19, and premature mortality (Sonderlund et al., 2022). Health effects of racialized economic segregation may manifest in terms of increased risk of communicable diseases, chronic illnesses that develop over the life course, and even intergenerational health-risks and morbidities, transferred prenatally from mother to infant (Sonderlund et al., 2022).

Racial Bias and Health

The socialization of racism installs the ideology of inferiority to the values of language, imagery, symbols, and unstated assumptions of the larger society (Williams & Mohammed, 2013). It creates a larger ideological environment where the system of racism can flourish both structurally and individually. It manifests itself through institutional stereotyping, media, and norms (Hicken et al., 2018). Normalized views regarding racial stereotypes, values, limitations, images, and ideologies associated with racial and ethnic minority groups are subconsciously or consciously adopted, and can yield inconspicuous forms of racism, such as implicit bias (Pyke, 2010). The internalization of racism forms a tendency to focus on an individual's pathology and abilities rather than the cultural and structural context that give rise to racial inequities. This internalization affects most members of the dominant racial group and a portion of the

marginalized group as well (Pyke, 2010). The prevalence of racial bias in the workplace across all major economic sectors is well documented (McCluney et al., 2018; Fekedulegn et al., 2019). In a recent national survey of U.S.-American adults who work with children, White Americans had very high levels of negative racial stereotypes towards non-Whites, which includes stereotypes of laziness, unintelligence, violence, and unhealthy habits. The highest volume of racist attitudes was directed towards African Americans, Native Americans, and Hispanic Americans, followed by other non-White marginalized groups (Priest et al., 2018). These racialized attitudes are also observed in medicine and nursing, where implicit bias was found to be significantly related to patient-provider interactions, treatment decisions, treatment adherence, and patient health outcomes (Fitzgerald & Hurst, 2017; Gopal, 2021). A systematic review of 37 studies found that healthcare students and professionals have a strong bias towards White or lighter-skinned patients (Joseph et al., 2021). Further studies show that a portion of healthcare providers have implicit bias with positive attitudes toward White Americans and negative attitudes towards people of color (Chapman et al., 2013; Hall et al., 2015; Schnierle et al., 2019). Implicit and explicit bias are forms of structural racism and factors contributing to health inequities, as evidenced by research (Chapman et al., 2013; Fekedulegn et al., 2019; Fitzgerald & Hurst, 2017; Gopal, 2021; Hall et al., 2015; McCluney et al., 2018; Schnierle et al., 2019; Tsai et al., 2021).

Lack of Teaching about Race

Education should equip future healthcare workers with the knowledge and skills necessary to advance health equity in a profession centering morals, ethics, and therapeutic outcomes (Tsai et al., 2021). Calls for anti-racist education have been made nationally; however,

these efforts are mainly student-led, elective, lack established support, and not viewed as core to curricula (Koschmann et al., 2020; Robinson et al., 2021; Tsai et al., 2016).

Medical and nursing education play an integral role in addressing racial health injustices through addressing inequity on a pedagogical and rhetorical level (Chapman et al., 2013). While a portion of US medical and nursing schools now include some health disparities teaching, very few engage in critical examination of health inequity (Braun, 2017; Braun & Saunders, 2017). The distinction between health inequality/disparity and health inequity is crucial and often missed (Sharma et al., 2018). Health inequalities/disparities are often referred to in curricula as "Social Determinants of Health", and educators simply fail to engage with health inequity when operating at the level of SDOH (Sharma et al., 2018). SDOH merely names the existence of health differences and describe social determinants (such as educational attainment, income level, or access to food) without relating them to power structures that marginalize different populations and thus create differing SDOH (Sharma et al., 2018). An educators' inability to name the downstream effects of racism ultimately fails to contextualize SDOH within socio-politics and leaves health trainees without structural competence and the proficiency to articulate the root causes of unequal conditions (Ahmad & Shi, 2017; Islam, 2019).

The Biomedical Model (BM), which prevails in medical and nursing teaching, fails to address health inequality as it characterizes bodies as machines, and disease as machine malfunction: pathology arises when biological components, such as tissue, are impaired (Krieger, 2001). This focus on individual machinations relays that the source of disease—and disease disparities—is found within the body's borders, divorcing human health from socio-political realities (Porter, 2006). Learners of the Biomedical Model discuss "poverty but not oppression,

race but not racism, sex but not sexism, and homosexuality but not homophobia" (Sharma et al., 2018, p. 1).

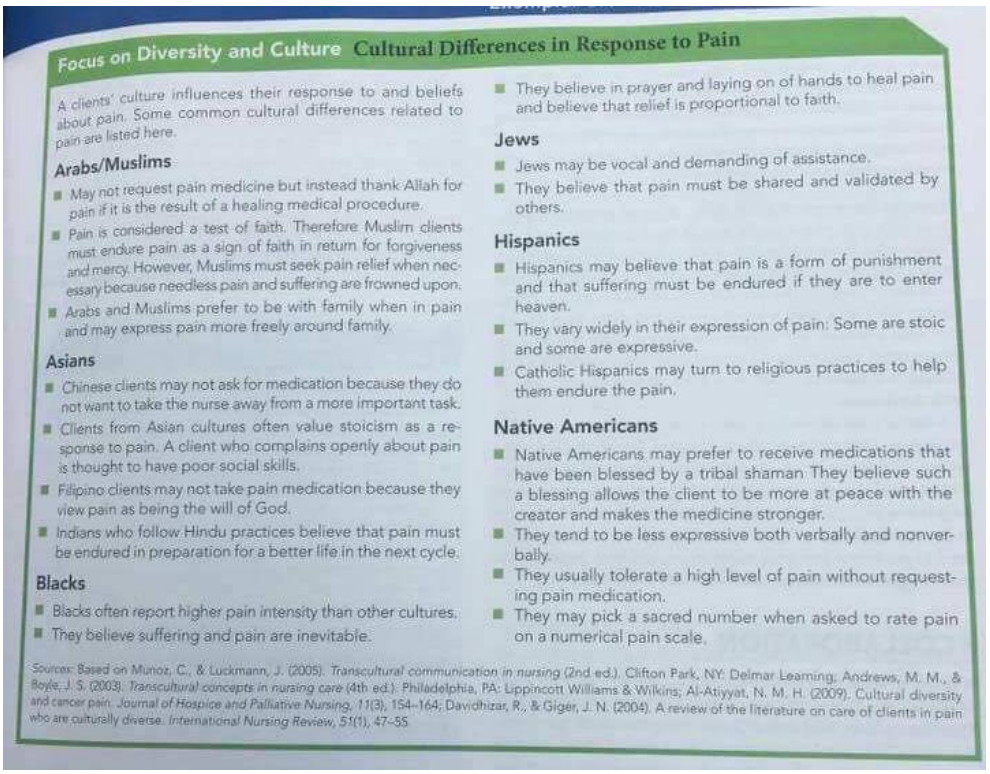
Critical Race Theory (CRT) is an intellectual movement, body of scholarship, and analytical toolset historically developed to interrogate relationships between law and racial inequality (Bridges, 2019). By training faculty, and thus, healthcare students to identify and oppose fundamental sources of patient marginalization, we engage in self-critique of health services research. CRT does what biomedical and health disparities curricula cannot: prepare the future healthcare worker to combat health inequality (Tsai et al., 2021). While institutions have sought to address the limitations of the Biomedical Model with SDOH teaching, these emerging curricula are still ill-equipped to challenge and contextualize health inequity, and thus, create unprepared future healthcare workers (Sharma et al., 2018). Unlike the BM—which inaccurately presumes race is an essential component of the human machine—CRT asserts that race is not genetic, but a power construct engineered to enforce racial hierarchy. In addition, CRT stresses that racism is so prevalent in society that it has become normalized to the point of invisibility (Hatch, 2007). Health equity cannot be achieved through technologic advancement or market-based ingenuity alone. It is, fundamentally, not a problem of science, but an issue of ethics and justice. Indeed, while 30,000 deaths could be prevented through medical innovation annually, eliminating excess mortality associated with education inequities would save 200,000 lives yearly (Woolf et al., 2007). To apply CRT to investigate, understand, and act on structural racism is to practice the theory, or create a praxis. CRT is thus referred to as Critical Race Praxis (CRP) when applied, and Public Health Critical Race Praxis (PHCRP) when applied specifically to address structured racialized health disparities.

Problem Statement

Seattle University College of Nursing's (SUCON) mission is to "educate the whole person, to professional formation, and to empower leaders for a just and humane world" (Seattle University, 2022, para. 1). SUCON's values include celebrating educational excellence through diversity, fostering a concern for justice, and instilling in the student the competence to promote justice. SUCON's values seeks to develop responsible leaders committed to the common good. Faculty have a crucial role and responsibility in addressing harmful implicit and explicit biases in the classroom setting as a preventative measure before students enter the nursing workforce and interact with a diverse patient population. In the spirit of SUCON, it is imperative to continue to address outdated biologically incorrect medical information which persist in medical and nursing school curricula nationally (Carter & Phillips, 2021; Hariharan et al., 2020). An example of the pervasiveness of outdated and harmful literature is a common nursing textbook widely distributed in 2015 by Pearson publishing company. This book details harmful stereotypes that purport cultural differences in response to pain. The textbook was used in a 2018 class at Seattle University College of Nursing to teach cultural competency a year after Pearson has pulled the book from its shelves in 2017 for racism and cultural insensitivity (Ford, 2017). Figure 1, below, depicts an excerpt from this textbook which demonstrates the persistence of harmful racial stereotyping (Pearson Education, 2015).

Figure 1.

Picture Depicting Page from a Required Text (Nursing: A Concept-Based Approach to Learning, Volume I, page 161) in a SUCON Graduate Level Nursing Course in 2018



Focus on Diversity and Culture **Cultural Differences in Response to Pain**

A clients' culture influences their response to and beliefs about pain. Some common cultural differences related to pain are listed here.

Arabs/Muslims

- May not request pain medicine but instead thank Allah for pain if it is the result of a healing medical procedure.
- Pain is considered a test of faith. Therefore Muslim clients must endure pain as a sign of faith in return for forgiveness and mercy. However, Muslims must seek pain relief when necessary because needless pain and suffering are frowned upon.
- Arabs and Muslims prefer to be with family when in pain and may express pain more freely around family.

Asians

- Chinese clients may not ask for medication because they do not want to take the nurse away from a more important task.
- Clients from Asian cultures often value stoicism as a response to pain. A client who complains openly about pain is thought to have poor social skills.
- Filipino clients may not take pain medication because they view pain as being the will of God.
- Indians who follow Hindu practices believe that pain must be endured in preparation for a better life in the next cycle.

Blacks

- Blacks often report higher pain intensity than other cultures.
- They believe suffering and pain are inevitable.
- They believe in prayer and laying on of hands to heal pain and believe that relief is proportional to faith.

Jews

- Jews may be vocal and demanding of assistance.
- They believe that pain must be shared and validated by others.

Hispanics

- Hispanics may believe that pain is a form of punishment and that suffering must be endured if they are to enter heaven.
- They vary widely in their expression of pain: Some are stoic and some are expressive.
- Catholic Hispanics may turn to religious practices to help them endure the pain.

Native Americans

- Native Americans may prefer to receive medications that have been blessed by a tribal shaman They believe such a blessing allows the client to be more at peace with the creator and makes the medicine stronger.
- They tend to be less expressive both verbally and nonverbally.
- They usually tolerate a high level of pain without requesting pain medication.
- They may pick a sacred number when asked to rate pain on a numerical pain scale.

Sources: Based on Munoz, C., & Luckmann, J. (2005). *Transcultural communication in nursing* (2nd ed.). Clifton Park, NY: Delmar Learning; Andrews, M. M., & Boyle, J. S. (2003). *Transcultural concepts in nursing care* (4th ed.). Philadelphia, PA: Lippincott Williams & Wilkins; Al-Atiyyat, N. M. H. (2009). Cultural diversity and cancer pain. *Journal of Hospice and Palliative Nursing, 11*(3), 154–164; Davidhizar, R., & Giger, J. N. (2004). A review of the literature on care of clients in pain who are culturally diverse. *International Nursing Review, 51*(1), 47–55.

Medical and nursing schools have implemented anti-racist curricula to address implicit and explicit biases, outdated and harmful curricula, and racism in healthcare education in the past decade (Corsino et al., 2021; Hardeman et al., 2018; Wilkins et al., 2021). Studies show that community-engaged learning experiences and an anti-racist curriculum increased student intention to work in underserved communities and address healthcare inequalities (Phelan et al., 2019). In a longitudinal case conference curriculum called Health Equity Rounds (HER), which discusses and addresses structural and implicit bias in patient care, 88% of medical school resident participants indicated that HER promoted personal reflection on implicit bias, and 75%

or more indicated that HER would impact their clinical practice (Perdomo et al., 2019). In another anti-racist curriculum program that addresses implicit and explicit racial bias in healthcare, psychiatric medical residents were asked to complete an anonymous evaluation form using a series of multiple-choice and open-ended questions. Survey responses were obtained from seven of 16 (44%) first year psychiatric residents, 13 of 16 (81%) second year psychiatric residents, eight of 16 (50%) third year psychiatric residents, and eight of 16 (50%) fourth year psychiatric residents. With regard to learners' experiences, the overall positive value placed on the curriculum was reflected in the survey responses. The majority of residents felt that the topic of racism should remain in the didactic curriculum. First year psychiatric residents were the most strongly oriented toward this topic, with 100% of those completing the evaluation rating the lecture experience as “strongly positive.” In addition, 97% of all residents who provided feedback agreed that discussing racism in formal didactics was at least “somewhat” positive, and 92% agreed that it should “probably” or “definitely” remain in the curriculum. (Medlock et al, 2017). A considerable knowledge gap exists regarding effective methods, tools, and outcomes to use for undoing racism and mitigating bias in nursing academia (Ricks, et al., 2021). Based on evidence from anti-racist medical education, anti-racist training programs for nursing faculty are an effective way to address implicit and explicit racial bias in nursing school and healthcare settings. These training programs are essential as they prepare faculty to train future providers entering the workforce who will perform the same duties as former medical students.

Project Purpose and Aims

The purpose of this project was to assess implicit and explicit racial biases of faculty in the graduate nursing academic setting, and to introduce Public Health Critical Race Praxis as a

solution to creating anti-racist curricula improvements. This project used a Public Health Critical Race Praxis approach to achieve these aims: (1) To address the implicit and explicit racial biases of faculty in the academic setting by explicitly naming structural racism in healthcare education and investigating it directly, rather than study proxies of race such as socioeconomic status; (2) To administer an online training to nursing faculty that challenges both their implicit and explicit racial biases in healthcare, as faculty are directly responsible in preparing future clinicians to treat a diverse patient population; (3) To change graduate and undergraduate nursing curriculum towards a more evidence-based approach to patient care and away from harmful biologically-false race-based metrics that are still taught in the classroom today; (4) And lastly, to establish a buy-in for faculty to diversify their medical information sources and include evidence-based information from marginalized groups in their syllabus, course material, and class slides.

Theoretical Framework

The theoretical framework chosen to address implicit and explicit racial bias in healthcare education is the Public Health Critical Race Praxis framework. PHCRP takes Critical Race Theory, which is a set of anti-racist tenets and modes of knowledge organized into a framework that targets the subtle and systemic ways racism currently operates above and beyond overt racist expressions, and acts on this knowledge to produce change. The “praxis” in PHCRP is where theory (Critical Race Theory) meets practice (Praxis) and implementation.

PHCRP has four applications in anti-racist education curricula:

Focus 1. Educators clarify how racism is salient in the study’s time period and account for this in the conceptual model. Retrospective analysis enables one to recognize historical racial mechanisms (e.g., racial eugenics).

Focus 2. Educators try to understand specific implications of this for their curriculum. For instance, they may reject a widely held theory, contesting the assumptions on which it relies. These decisions naturally influence the curriculum's conceptual model and may influence some methods.

Focus 3. Educators build on the information gained while working in Focuses 1 and 2 to operationalize the curriculum's racism-related and seemingly non-racial (e.g., health outcomes) variables.

Focus 4. The findings should do more than merely support an academic industrial complex, they should help unpack and undo the power differentials between professional educators and the racialized health disparity populations we study. To the extent possible, education should benefit communities directly (e.g., educators should share the findings with them). Educators take actions that draw on the PHCRP principles (Ford, 2018).

Methodology

Design

This was a quality improvement project with a pre-/post-online training survey to evaluate desired change. This project was reviewed by the Seattle University Institutional Review Board and was deemed non-human-subjects research. This author used the Plan-Do-Study-Act (PDSA) quality improvement model, a common model used in U.S. State and Local health departments to implement change. The PDSA method forms a hypothesis for improvement (Plan), carries out a change or test (Do), analyzes and interprets the results (Study) and iterates next actions (Act) (Taylor et al., 2014). The online training consisted of five clinical case studies adapted into an online module, or "workshop", each designed to address implicit and

explicit racial biases in the healthcare setting of the five Doctor of Nursing Practice (DNP) specialties offered at Seattle University. The five DNP specialties and their generalized healthcare settings are: 1) Certified Midwife (CNM)/ Women's Health Specialties, 2) Family Nurse Practitioner (FNP)/ Primary Care / General Specialties, 3) Psychiatric Mental Health Nurse Practitioner (PMHNP) /Mental Health Specialties, 4) Acute Care Nurse Practitioner (ACNP)/ Emergency Medicine / Urgent Care Specialties, 5) Adult Gerontological Nurse Practitioner (AGNP) / Gerontological Specialties.

Setting

The project setting took place online through the Qualtrics survey platform and was accessed through smart phones, tablets, and computers. The study environment was Seattle University College of Nursing.

Participants and Recruitment

The subject population was SUCON faculty. SUCON faculty were recruited to participate in this clinical workshop in collaboration with the SUCON's Equity and Justice Committee (EJC). The EJC engaged in faculty outreach and recruitment during winter quarter of 2022. The survey and clinical case studies were open for faculty completion at their own pace between April 4th and 18th of 2022.

Intervention and Data Collection Procedures

The five modules were created using Qualtrics, an online modular survey and testing site. At the start of an online module, a consent form that details the project informs the participant of all aspects of the module, data use, and Doctor of Nursing Practice project (See Appendix A). Faculty then completed the pre-intervention survey (See Appendix B) that measures their

knowledge of PHCRP, racial health inequities, healthcare education's role in perpetuating or ameliorating racial health inequities, and their likelihood to use PHCRP in the courses they teach to address implicit and explicit racial biases. The pre-test survey is needed to measure improvements of knowledge areas and usefulness of the module against a post-test survey. The participants selected their tenure status and race/ethnicity for demographics during the pre-survey. Faculty then selected a specialty-specific-module. If faculty had more than one specialty, they could select the specialty they were most specialized or interested in (Appendix C). The selection of a healthcare specialty took the participant to a specialty-specific case-study designed around their selection. After participants completed the selected case-study (See Appendix D), faculty took the same survey (See Appendix E) to measure improvements and desired change regarding their knowledge of PHCRP, racial health inequities, healthcare education's role in racial health inequities, and their likelihood to use PHCRP in the classroom to address implicit and explicit racial biases. Survey responses were recorded using a Likert scale with several short answer questions for contextual measurements of faculty knowledge on these topics. The online module took approximately one hour to complete.

Indirect identifiers collected from the pre-survey were tenure status and race/ethnicity. Name, sex, and gender were excluded from indirect identifier collection to reduce the possibility of identifying a participant. There was a risk that a combination of these indirect identifiers might help identify faculty. In the event that the combination of indirect identifiers would serve to identify the participant, that participant's indirect identifiers will be excluded from the aggregate reported data. No instances occurred where the identity of a participant was revealed in this study with a combination of indirect identifiers.

Measures and Instruments

The workshop was hosted in its entirety on the Qualtrics online survey platform. The pre/post-survey captured both quantitative Likert scale answers and open-ended qualitative answers. The qualitative open-ended questions in the surveys were designed to provide context to the quantitative Likert scale survey answers. The specialty-specific case studies consisted of short answer qualitative questions, which move the user through the case study.

Data Analysis

Due to the small sample size of participants (n=5), a paired t-test was not successful in establishing a significant P-value. Statistical significance is the probability that the observed difference between the pre-survey and post-survey groups were due to chance. With a large enough sample, a statistical test will likely demonstrate statistically significant difference between a pre-survey and post-survey group, unless the intervention implemented had no effect on the participants at all. Therefore, P-values are considered to be confounded because of their dependence on sample size (Sullivan & Fienn, 2012). In studies with small sample sizes, a statistically insignificant result can mean only that a small sample size was used, therefore, reporting only the P-value for an analysis is not adequate for readers to fully understand the results and conclude the intervention had no significant effect (Sullivan & Fienn, 2012).

Thus, the use of Effect Size (ES) was essential in measuring effectiveness of the intervention in this study. Effect Size is the magnitude of the difference between groups and can be represented as a raw percentage. For example, if an educational intervention resulted in the improvement of subjects' examination scores by a total of 15 of 50 questions, the ES is 15 questions, or 30%, better on the examination. Calculated indices of Effect Size are useful when

the measurements have no intrinsic meaning, such as numbers on a Likert scale; when studies have used different scales, so no direct comparison is possible; or when Effect Size is examined in the context of variability in the population under study. In this study, the Effect Size was used to measure the percent change between the pre-survey and post-survey groups (Sullivan & Fienn, 2012). An increase in percentage in the post-survey group vs. the pre-survey group indicates an improvement or desired change.

For large sample sizes with qualitative data, thematic analysis and content analysis are the most common analytic approaches named by authors in healthcare and academic settings (Kegler et al., 2019). To interpret qualitative data, answers would be parsed into meaning units, condensed further into meaning units, coded, categorized, and developed into themes (Erlingsson & Brysiewicz, 2017). Due to the small sample size (n=5), answers to qualitative questions in the case-studies were reported and discussed in the context of the literature presented in each case-study answer key (see Appendix D).

Results

The Qualtrics link to participate in the case studies was sent by the EJC to the "Nursing-Faculty" mailing list. There are 177 members in the nursing faculty list which includes full-time, full-time-modified, and contingent faculty. A total of five participants completed the pre-survey, case study, and post-survey (n = 5). The response rate of participants in the total mailing list is 2.82% (5 of 177). Thirty-six members of the nursing faculty list are full time faculty. The response rate of participants that are full time faculty, assuming all participants who completed the case studies are full time faculty, is 13.89% (5 of 36).

Due to the small sample size, participant identification numbers have been removed and demographics will be reported by category of race and tenure track. Four participants identified as White, and one as American Indian or Alaskan Native. Four participants were non-tenure-track, and one participant was tenured. Participant selections of case studies will not be reported in conjunction with their race and tenure status to reduce the possibility of identifying participants.

Quantitative Survey Results

In this section, I will present the quantitative results of the Likert scale pre-post survey questions. Each table presented displays a survey question and the participant's answer to the question in the pre and post survey, as well as percent distribution of answers.

Table 1

Participant Pre-Post Survey Answers to the Statement Posed "I am Familiar with Public Health Critical Race Praxis and its Principles"

I am Familiar with Public Health Critical Race Praxis and its Principles	Pre-Test		Post-Test	
	%	Total	%	Total
Strongly Agree	0%	0	40%	2
Somewhat Agree	40%	2	20%	1
Neither Agree nor Disagree	0%	0	20%	1
Somewhat Disagree	40%	2	20%	1
Strongly Disagree	20%	1	0%	0
Grand Total (%)	100.00%	5	100.00%	5

In Table 1, 20% of participants in the pre-survey strongly disagreed, 40% somewhat disagreed, and 40% somewhat agreed with the statement "I am Familiar with Public Health Critical Race Praxis and its Principles". 20% of participants in the post-survey somewhat

disagreed, 20% neither agreed nor disagreed, 20% somewhat agreed, and 40% strongly agreed with the statement “I am Familiar with Public Health Critical Race Praxis and its Principles”.

Table 2

Participant Pre-Post Survey Answers to the Statement Posed “Public Health Critical Race Praxis Belongs in Health Education Curriculum”

Public Health Critical Race Praxis Belongs in Health Education Curriculum	Pre-Test		Post-Test	
	%	Total	%	Total
Strongly Agree	80%	4	100%	5
Somewhat Agree	0%	0	0%	0
Neither Agree nor Disagree	20%	1	0%	0
Somewhat Disagree	0%	0	0%	0
Strongly Disagree	0%	0	0%	0
Grand Total (%)	100.00%	5	100.00%	5

In Table 2, 20% of participants in the pre-survey neither agreed nor disagreed, and 80% strongly agreed with the statement “Public Health Critical Race Praxis Belongs in Health Education Curriculum”. 100% of participants in the post-survey strongly agreed with the statement “Public Health Critical Race Praxis Belongs in Health Education Curriculum”.

Table 3

Participant Pre-Post Survey Answers to the Statement Posed “Racism Exists in Teaching and Learning about Health at the University Level”

Racism Exists in Teaching and Learning about Health at the University Level	Pre-Test		Post-Test	
	%	Total	%	Total
Strongly Agree	100%	5	100%	5
Somewhat Agree	0%	0	0%	0
Neither Agree nor Disagree	0%	0	0%	0
Somewhat Disagree	0%	0	0%	0
Strongly Disagree	0%	0	0%	0
Grand Total (%)	100.00%	5	100.00%	5

In Table 3, 100% of participants in the pre-survey strongly agreed with the statement "Racism Exists in Teaching and Learning about Health at the University Level". 100% of participants in the post-survey strongly agreed with the statement "Racism Exists in Teaching and Learning about Health at the University Level".

Table 4

Participant Pre-Post Survey Answers to the Statement Posed "Racism Impacts Clinical Decisions"

Racism Impacts Clinical Decisions	Pre-Test		Post-Test	
	%	Total	%	Total
Strongly Agree	100%	5	100%	5
Somewhat Agree	0%	0	0%	0
Neither Agree nor Disagree	0%	0	0%	0
Somewhat Disagree	0%	0	0%	0
Strongly Disagree	0%	0	0%	0
Grand Total (%)	100.00%	5	100.00%	5

In Table 4, 100% of participants in the pre-survey strongly agreed with the statement "Racism Impacts Clinical Decisions". 100% of participants in the post-survey strongly agreed with the statement "Racism Impacts Clinical Decisions".

Table 5

Participant Pre-Post Survey Answers to the Statement Posed "Implicit Bias Impacts Clinical Decisions"

Implicit Bias Impacts Clinical Decisions	Pre-test		Post-test	
	%	Total	%	Total
Strongly Agree	100%	5	100%	5
Somewhat Agree	0%	0	0%	0
Neither Agree nor Disagree	0%	0	0%	0
Somewhat Disagree	0%	0	0%	0
Strongly Disagree	0%	0	0%	0
Grand Total (%)	100.00%	5	100.00%	5

In Table 5, 100% of participants in the pre-survey strongly agreed with the statement "Implicit Bias Impacts Clinical Decisions". 100% of participants in the post-survey strongly agreed with the statement "Implicit Bias Impacts Clinical Decisions".

Table 6

Participant Pre-Post Survey Answers to the Statement Posed "Racism is a Significant Issue in Healthcare"

Racism is a Significant Issue in Healthcare	Pre-Test		Post-Test	
	%	Total	%	Total
Strongly Agree	80%	4	100%	5
Somewhat Agree	20%	1	0%	0
Neither Agree nor Disagree	0%	0	0%	0
Somewhat Disagree	0%	0	0%	0
Strongly Disagree	0%	0	0%	0
Grand Total (%)	100.00%	5	100.00%	5

In Table 6, 20% of participants in the pre-survey somewhat agreed, and 80% strongly agreed with the statement "Racism is a Significant Issue in Healthcare". 100% of participants in the post-survey strongly agreed with the statement "Racism is a Significant Issue in Healthcare".

Table 7

Participant Pre-Post Survey Answers to the Statement Posed "Race is a Biological Category"

Race is a Biological Category	Pre-test		Post-test	
	%	Total	%	Total
Strongly Agree	0%	0	20%	1
Somewhat agree	20%	1	20%	1
Neither agree nor disagree	20%	1	0%	0
Somewhat disagree	0%	0	0%	0
Strongly Disagree	60%	3	60%	3
Grand Total (%)	100.00%	5	100.00%	5

In Table 7, 60% of participants in the pre-survey strongly disagreed, 20% neither agreed nor disagreed, and 20% somewhat agree with the statement “Race is a Biological Category”. 60% of participants in the post-survey strongly disagreed, 20% somewhat agreed, and 20% strongly agreed with the statement “Race is a Biological Category”.

Table 8

Participant Pre-Post Survey Answers to the Statement Posed “Patients have Differing Organ Functions and Lab Normal Values according to their Race”

Patients have Differing Organ Functions and Lab Normal Values according to their Race	Pre-Test		Post-Test	
	%	Total	%	Total
Strongly Agree	20%	1	20%	1
Somewhat Agree	20%	1	20%	1
Neither Agree nor Disagree	0%	0	0%	0
Somewhat Disagree	0%	0	0%	0
Strongly Disagree	60%	3	60%	3
Grand Total (%)	100.00%	5	100.00%	5

In Table 8, 60% of participants in the pre-survey strongly disagreed, 20% somewhat agreed, and 20% strongly agreed with the statement “Patients have Differing Organ Functions and Lab Normal Values according to their Race”. 60% of participants in the post-survey strongly disagreed, 20% somewhat agreed, and 20% strongly agreed with the statement “Patients have Differing Organ Functions and Lab Normal Values according to their Race”.

Table 9

Participant Pre-Post Survey Answers to the Statement Posed "Biologically, African American Patients Can Tolerate Pain more than White Patients"

Biologically, African American Patients Can Tolerate Pain more than White Patients	Pre-Test		Post-Test	
	%	Total	%	Total
Strongly Agree	0%	0	0%	0
Somewhat Agree	0%	0	0%	0
Neither Agree nor Disagree	20%	1	20%	1
Somewhat Disagree	0%	0	0%	0
Strongly Disagree	80%	4	80%	4
Grand Total (%)	100.00%	5	100.00%	5

In Table 9, 80% of participants in the pre-survey strongly disagreed, and 20% neither agreed nor disagreed with the statement "Biologically, African American Patients Can Tolerate Pain more than White Patients". 80% of participants in the post-survey strongly disagreed, and 20% neither agreed nor disagreed with the statement "Biologically, African American Patients Can Tolerate Pain more than White Patients".

Table 10

Participant Pre-Post Survey Answers to the Statement Posed "Biologically, Native American Patients Can Tolerate Pain more than White Patients"

Biologically, Native American Patients Can Tolerate Pain more than White Patients	Pre-Test		Post-Test	
	%	Total	%	Total
Strongly Agree	0%	0	0%	0
Somewhat Agree	0%	0	0%	0
Neither Agree nor Disagree	20%	1	20%	1
Somewhat Disagree	0%	0	0%	0
Strongly Disagree	80%	4	80%	4
Grand Total (%)	100.00%	5	100.00%	5

In Table 10, 80% of participants in the pre-survey strongly disagreed, and 20% neither agreed nor disagreed with the statement "Biologically, Native American Patients Can Tolerate

Pain more than White Patients". 80% of participants in the post-survey strongly disagreed, and 20% neither agreed nor disagreed with the statement "Biologically, Native American Patients Can Tolerate Pain more than White Patients".

Table 11

Participant Pre-Post Survey Answers to the Statement Posed "I will Incorporate Public Health Critical Race Praxis in my Course Materials"

I will Incorporate Public Health Critical Race Praxis in my Course Materials	Pre-test		Post-test	
	%	Total	%	Total
Strongly Agree	60%	3	60%	3
Somewhat agree	20%	1	20%	1
Neither agree nor disagree	20%	1	20%	1
Somewhat disagree	0%	0	0%	0
Strongly Disagree	0%	0	0%	0
Grand Total (%)	100.00%	5	100.00%	5

In Table 11, 20% of participants in the pre-survey neither agreed nor disagreed, 20% somewhat agreed, and 60% strongly agreed with the statement "I will Incorporate Public Health Critical Race Praxis in my Course Materials". 20% of participants in the post-survey neither agreed nor disagreed, 20% somewhat agreed, and 60% strongly agreed with the statement "I will Incorporate Public Health Critical Race Praxis in my Course Materials".

Table 12

Participant Pre-Post Survey Answers to the Statement Posed "I Encourage Others to Incorporate Public Health Critical Race Praxis in their Course Materials"

I Encourage Others to Incorporate Public Health Critical Race Praxis in their Course Materials	Pre-Test		Post-Test	
	%	Total	%	Total
Strongly Agree	60%	3	60%	3
Somewhat Agree	20%	1	20%	1
Neither Agree nor Disagree	20%	1	20%	1
Somewhat Disagree	0%	0	0%	0
Strongly Disagree	0%	0	0%	0
Grand Total (%)	100.00%	5	100.00%	5

In Table 12, 20% of participants in the pre-survey neither agreed nor disagreed, 20% somewhat agreed, and 60% strongly agreed with the statement "I Encourage Others to Incorporate Public Health Critical Race Praxis in their Course Materials". 20% of participants in the post-survey neither agreed nor disagreed, 20% somewhat agreed, and 60% strongly agreed with the statement "I Encourage Others to Incorporate Public Health Critical Race Praxis in their Course Materials".

Open Ended Survey Question Results

In this section, I will present a table summarizing answers to open-ended qualitative survey questions. Participants were asked six open ended questions that measure understanding of race, racism, PHCRP, and the likelihood of using PHCRP in their course curriculum. These questions were posed before the case study and again after the case study to contextualize participant answers to Likert scale quantitative survey questions.

Table 13

Summary of Participant Answers to Open-ended Qualitative Pre-Post Survey Questions

Open-ended Qualitative Pre-Post Survey Questions	Summarized Pre-Survey Participant Answers	Summarized Post-Survey Participant Answers
In a Few Sentences, Define Race	• Social construct • Genetic make-up • Self-identity	• Social construct • Genetic make-up • Self-identity
In a Few Sentences, Define Racism	• Prejudice/discrimination based on racial category/features	• Prejudice/discrimination based on racial category/features
In a Few Sentences, Please Define Public Health Critical Race Praxis	• Applying CRT to public health • I don't know	• Applying CRT to public health • I don't know
In a Few Sentences, Explain the Role Public Health Critical Race Praxis Plays in Healthcare Academia	• Investigating racism in healthcare and health education	• Investigating racism in healthcare and health education
If Any, What Benefits Does Public Health Critical Race Praxis Bring to Healthcare Education?	• Benefit patients by training nurses and students to be equitable, examining racism within ourselves and healthcare academia	• Benefit patients by training nurses and students to be equitable, examining racism within ourselves and healthcare academia
If Any, What Disadvantages Does Public Health Critical Race Praxis Bring to Healthcare Education?	• Administrative retaliation • I don't know • Destabilizing the groups in power	• Administrative retaliation • The challenge of applying CRT is worth it • I'm uncertain of any disadvantages

Report on Participant Engagement in Case Studies

In this section, I will report participant answers to each of the specialty-specific case studies.

One participant completed the Family Nurse Practitioner (FNP) / Primary Care / General Specialties case study. This case study explores the outdated use of the African American (AA) race variable when calculating Glomerular Filtration Rate (GFR), and challenges participants to

calculate GFR with and without the race proxy to interpret how differences in GFR may delay kidney transplant and care in African American patients.

Three participants completed the Certified Nurse Midwife (CNM) / Women's Health Specialties case study. This case study explores the events that transpired in the post-partum hemorrhage death of Kira Johnson who died on April 12, 2016 at Cedars-Sinai Medical Center in Los Angeles, 10 hours after her planned C-section. She was a mother of one, a wife, spoke five languages fluently, had a pilot's license, was an avid skydiver, and was in incredible health. Her death, like that of many African Americans in labor, could have been avoided with attention to her signs of hemorrhage and listening to her reported symptoms. Participants are given an unfolding case study that presents worsening labs, symptoms, vitals, and diagnostic images and are asked to present their clinical decisions as the case progresses. Themes collected identify delays in care, gaps of clinical knowledge in post-partum hemorrhage, and when to escalate care.

One participant completed the Adult Gerontological Nurse Practitioner (AGNP) / Gerontological Specialties case study. This case study explores the diagnosis of pressure ulcers in darkly melanated patients, which are often delayed in their diagnosis and only identified when open sores develop.

No participants selected the Psychiatric Mental Health Nurse Practitioner (PMHNP) /Mental Health Specialties. This case study challenges the participant in diagnosing Unipolar Major Depression with Psychotic Features vs. Schizophrenia where African American patients are over diagnosed with Schizophrenia due to bias. The case study asks the participant to select

the appropriate pharmacotherapy and the appropriateness of involuntary admission and restraints vs talk therapy which are made less available to African American patients.

No participants selected the Acute Care Nurse Practitioner (ACNP)/ Emergency Medicine / Urgent Care Specialties case study. This case study challenges the patient to treat chronic pain in the emergency department and identify presence of a sickle cell anemia crisis in an African American patient.

Discussion

Quantitative Data Discussion

Overall, participants experienced a marked increase in Effect Size in the post-survey compared to the pre-survey, indicating an increase in PHCRP knowledge from baseline after completing the case studies. To analyze improvement in knowledge per question, Likert scale answers were weighed according to whether the statement posed was negative or positive, and a participant's agreeance or disagreement with the statement. For example, if the statement posed was positive, then agreeing with the statement was a positive indicator of knowledge. The scale is then the following: Strongly Disagree = 1, Somewhat Disagree = 2, Neither Agree nor Disagree = 3, Somewhat Agree = 4, Strongly Agree = 5. This is true for questions posed in tables 1-6 and 11-12. The opposite weight is applied for tables 7-10, where the statement posed is negative, and disagreeing with the statement was a positive indicator of knowledge. the weight is then the following: Strongly Disagree = 5, Somewhat Disagree = 4, Neither Agree nor Disagree = 3, Somewhat Agree = 2, Strongly Agree = 1. Each question will take the sum of all participant answers and multiply them with the weight of the answers above to derive a total value of understanding race, racism, PHCRP, and likeliness of using PHCRP in participant course

curriculum. In theory, the highest possible total score is 25, where 5 participants can each score 5 points per question. A total score of 25 indicates complete understanding/agreement of the statement posed in each question. The Effect Size is the raw percentage difference between the post-survey and pre-survey. A positive percent change of Effect Size indicates increase in PHCRP knowledge and effectiveness of the case studies. No percent change of Effect Size indicates no changes in knowledge. A negative percent change of Effect Size indicates a decrease in understanding of PHCRP knowledge and effectiveness of the case studies.

Table 14

Effect Size of Participant Answers to the Pre-Post Survey Question "I am Familiar with Public Health Critical Race Praxis and its Principles"

I am Familiar with Public Health Critical Race Praxis and its Principles	Pre-Test		Post-Test	
	Weight	Total	Weight	Total
Strongly Agree	5	0	5	2
Somewhat Agree	4	2	4	1
Neither Agree nor Disagree	3	0	3	1
Somewhat Disagree	2	2	2	1
Strongly Disagree	1	1	1	0
Calculated Score (Sum of Weighted Answers)	13	5	19	5
Percent Score (of 25)	52%		72%	
Effect Size (%)	20%			

There was an increase in PHCRP knowledge from baseline after completing the case study indicated by a 20% ES.

Table 15

Effect Size of Participant Answers to the Pre-Post Survey Question "Public Health Critical Race Praxis Belongs in Health Education Curriculum"

Public Health Critical Race Praxis Belongs in Health Education Curriculum	Pre-Test		Post-Test	
	Weight	Total	Weight	Total
Strongly Agree	5	4	5	5
Somewhat Agree	4	0	4	0
Neither Agree nor Disagree	3	1	3	0
Somewhat Disagree	2	0	2	0
Strongly Disagree	1	0	1	0
Calculated Score (Sum of Weighted Answers)	23	5	25	5
Percent Score (of 25)	92%		100%	
Effect Size (%)	8%			

One participant changed their beliefs from not having an opinion on whether PHCRP belongs in health education curriculums, to strongly agreeing that PHCRP belongs in health education curriculums. All participants strongly agreed that PHCRP belongs in health education curriculums after the case study. An increase of PHCRB knowledge is indicated by an 8% ES.

Table 16

Effect Size of Participant Answers to the Pre-Post Survey Question "Racism Exists in Teaching and Learning about Health at the University Level"

Racism Exists in Teaching and Learning about Health at the University Level	Pre-Test		Post-Test	
	Weight	Total	Weight	Total
Strongly Agree	5	5	5	5
Somewhat Agree	4	0	4	0
Neither Agree nor Disagree	3	0	3	0
Somewhat Disagree	2	0	2	0
Strongly Disagree	1	0	1	0
Grand Total (Sum of Weighted Answers)	25	5	25	5
Percent Score (of 25)	100%		100%	
Effect Size (%)	0%			

All participants strongly agree that racism exists in healthcare education in the pre-intervention survey, indicating a baseline awareness of the issue. There was no change in ES between pre-post survey answers.

Table 17

Effect Size of Participant Answers to the Pre-Post Survey Question "Racism Impacts Clinical Decisions"

Racism Impacts Clinical Decisions	Pre-Test		Post-Test	
	Weight	Total	Weight	Total
Strongly Agree	5	5	5	5
Somewhat Agree	4	0	4	0
Neither Agree nor Disagree	3	0	3	0
Somewhat Disagree	2	0	2	0
Strongly Disagree	1	0	1	0
Grand Total (Sum of Weighted Answers)	25	5	25	5
Percent Score (of 25)	100%		100%	
Effect Size (%)	0%			

All participants strongly agree that racism impacts clinical decisions in the pre-intervention survey, indicting a baseline awareness of the issue. There was no change in ES between pre-post survey answers.

Table 18

Effect Size of Participant Answers to the Pre-Post Survey Question "Implicit Bias Impacts Clinical Decisions"

Implicit Bias Impacts Clinical Decisions	Pre-Test		Post-Test	
	Weight	Total	Weight	Total
Strongly Agree	5	5	5	5
Somewhat Agree	4	0	4	0
Neither Agree nor Disagree	3	0	3	0
Somewhat Disagree	2	0	2	0
Strongly Disagree	1	0	1	0
Grand Total (Sum of Weighted Answers)	25	5	25	5
Percent Score (of 25)	100%		100%	
Effect Size (%)	0%			

All participants strongly agree that implicit bias impacts clinical decisions in the pre-intervention survey, indicating a baseline awareness of the issue. There was no change in ES between pre-post survey answers.

Table 19

Effect Size of Participant Answers to the Pre-Post Survey Question "Racism is a Significant Issue in Healthcare"

Racism is a Significant Issue in Healthcare	Pre-Test		Post-Test	
	Weight	Total	Weight	Total
Strongly Agree	5	4	5	5
Somewhat Agree	4	1	4	0
Neither Agree nor Disagree	3	0	3	0
Somewhat Disagree	2	0	2	0
Strongly Disagree	1	0	1	0
Grand Total (Sum of Weighted Answers)	24	5	25	5
Percent Score (of 25)	96%		100%	
Effect Size (%)	4%			

One participant somewhat agreed that racism is a significant issue in healthcare. Their perspective changed to strongly agreeing that racism is a significant issue in healthcare after the

case study. All participants strongly agree that racism is a significant issue in the healthcare after the case-study. There was a 4% change in ES between pre-post survey answers, indicating PHCRP knowledge improvement.

Table 20

Effect Size of Participant Answers to the Pre-Post Survey Question "Race is a Biological Category"

Race is a Biological Category	Pre-test		Post-test	
	Weight	Total	Weight	Total
Strongly Agree	1	0	1	1
Somewhat agree	2	1	2	1
Neither agree nor disagree	3	1	3	0
Somewhat disagree	4	0	4	0
Strongly Disagree	5	3	5	3
Grand Total (Sum of Weighted Answers)	20	5	18	5
Percent Score (of 25)	80%		72%	
Effect Size (%)	-8%			

Two participants endorsed the false belief that race is a biological category. These perspectives worsened after the case-study. These answers indicate need for further health equity training to reduce the probability of patient harm. Harboring this belief can cause patient harm by delaying or altering patient care under the pretense that biologically, a patient's organ functions, or lab values differ by race. Three other applicants strongly disagreed that race is a biological category. There was a negative eight percent ES, indicative perspectives of PHCRP have worsened after the case study.

Table 21

Effect Size of Participant Answers to the Pre-Post Survey Question "Patients have Differing Organ Functions and Lab Normal Values according to their Race"

Patients have Differing Organ Functions and Lab Normal Values according to their Race	Pre-Test		Post-Test	
	Weight	Total	Weight	Total
Strongly Agree	1	1	1	1
Somewhat Agree	2	1	2	1
Neither Agree nor Disagree	3	0	3	0
Somewhat Disagree	4	0	4	0
Strongly Disagree	5	3	5	3
Grand Total (Sum of Weighted Answers)	18	5	18	5
Percent Score (of 25)	72%		72%	
Effect Size (%)	0%			

Two participants endorsed the false belief that patients have differing organ functions and lab normal values according to their race. These perspectives remained the same after the case-study. These answers indicate need for further health equity training to reduce the probability of patient harm. Harboring this belief can cause patient harm by delaying or altering patient care under the pretense that biologically, a patient's organ functions, or lab values differ by race. Three other applicants strongly disagreed that race is a biological category. These was no change in ES between pre-post surveys, indicating the case studies did not move participant perspective on this matter.

Table 22

Effect Size of Participant Answers to the Pre-Post Survey Question "Biologically, African American Patients Can Tolerate Pain more than White Patients"

Biologically, African American Patients Can Tolerate Pain more than White Patients	Pre-Test		Post-Test	
	Weight	Total	Weight	Total
Strongly Agree	1	0	1	0
Somewhat Agree	2	0	2	0
Neither Agree nor Disagree	3	1	3	1
Somewhat Disagree	4	0	4	0
Strongly Disagree	5	4	5	4
Grand Total (Sum of Weighted Answers)	23	5	23	5
Percent Score (of 25)	92%		92%	
Effect Size (%)	0%			

One participant could neither agree nor disagree with the false statement that biologically, African American patients can tolerate pain more than White patients. This indicates a need for further health equity education to reduce the chances of undertreating pain and causing harm to African American patients due to the literature indicating that there is no genetic difference in genetic indications for pain care plans between races (Long et al., 2009). Four participants strongly disagreed with this statement. There was no change in ES, indicating the case studies did not improve PHCRP knowledge in this matter.

Table 23

Effect Size of Participant Answers to the Pre-Post Survey Question "Biologically, Native American Patients Can Tolerate Pain more than White Patients"

Biologically, Native American Patients Can Tolerate Pain more than White Patients	Pre-Test		Post-Test	
	Weight	Total	Weight	Total
Strongly Agree	1	0	1	0
Somewhat Agree	2	0	2	0
Neither Agree nor Disagree	3	1	3	1
Somewhat Disagree	4	0	4	0
Strongly Disagree	5	4	5	4
Grand Total (Sum of Weighted Answers)	23	5	23	5
Percent Score (of 25)	92%		92%	
Effect Size (%)	0%			

One participant could neither agree nor disagree with the false statement that biologically, Native American patients can tolerate pain more than White patients. This indicates a need for further health equity education to reduce the chances of undertreating pain and causing harm to Native American patients due to the literature indicating that there is no genetic difference in genetic indications for pain care plans between races. Four participants strongly disagreed with this statement. There was no change in ES, indicating the case studies did not improve PHCRP knowledge in this matter.

Table 24

Effect Size of Participant Answers to the Pre-Post Survey Question "I will Incorporate Public Health Critical Race Praxis in my Course Materials"

I will Incorporate Public Health Critical Race Praxis in my Course Materials	Pre-test		Post-test	
	Weight	Total	Weight	Total
Strongly Agree	5	3	5	3
Somewhat agree	4	1	4	1
Neither agree nor disagree	3	1	3	1
Somewhat disagree	2	0	2	0
Strongly Disagree	1	0	1	0
Grand Total (Sum of Weighted Answers)	22	5	22	5
Percent Score (of 25)	88%		88%	
Effect Size (%)	0%			

Four participants express interest in incorporating PHCRP in their course curriculum. One participant is undecided. These perspectives did not change after the case study. There was no change in ES, indicating the case studies did not improve the likelihood of including PHCRP in faculty curriculum after the case study.

Table 25

Effect Size of Participant Answers to the Pre-Post Survey Question "I Encourage Others to Incorporate Public Health Critical Race Praxis in their Course Materials"

I Encourage Others to Incorporate Public Health Critical Race Praxis in their Course Materials	Pre-Test		Post-Test	
	Weight	Total	Weight	Total
Strongly Agree	5	3	5	3
Somewhat Agree	4	1	4	1
Neither Agree nor Disagree	3	1	3	1
Somewhat Disagree	2	0	2	0
Strongly Disagree	1	0	1	0
Grand Total (Sum of Weighted Answers)	22	5	22	5
Percent Score (of 25)	88%		88%	
Effect Size (%)	0%			

Four participants expressed interest in encouraging others to incorporate PHCRP into their course curriculum. One participant is undecided. These perspectives did not change after the case study. There was no change in ES, indicating the case studies did not improve the likelihood of encouraging others to include PHCRP in their curriculum after the case study.

Overall, there was an increased in Effect Size, indicating an increase in PHCRP concepts after the administration of the case studies.

Pre/Post Qualitative Data Discussion

When asked “In a few sentences, define race”, three participants were able to understand race as a social construct. The other two participants defined race as genetic make-up, and a person’s self-identity. These perspectives did not change after the case study. Reducing race to genetics is a harmful in that it assumes a genetic make-up of a person based on a social construct of race. This is disproven, as there is more genetic variation within race groups than between race groups, and genetic justifications of race are more in-line with eugenics (Long et al., 2009).

When asked “In a few sentences, define racism”, all participants were able to define racism. This is an established baseline for faculty awareness of race.

When asked “In a few sentences, please define Public Health Critical Race Praxis”, three participants were able to define PHCRP. Two participants were unable to define PHCRP. These perspectives did not change. This is indicative of the need to more clearly define PHCRP in the beginning of the case study while attempting not to introduce bias into the study.

When asked “In a few sentences, explain the role Public Health Critical Race Praxis plays in healthcare academia”, all participants were able to explain the role PHCRP has in

healthcare academia, indicating an adequate understanding of PHCRP roles in healthcare academia.

When asked “If any, what benefits does Public Health Critical Race Praxis bring to healthcare education?”, participants stated that PHCRP would benefit patients by training nurses and students to be equitable, improving health outcomes, examining structures of racism within academia and healthcare, examining biases within ourselves.

When asked “If any, what disadvantages does Public Health Critical Race Praxis bring to healthcare education?”, one participant stated a fear of administrative retaliation. two stated they do not know. Two participants stated their concern for destabilizing groups in power. One of these participants changed their perspectives and stated the new challenge is worth the effort. The other participant stated they are uncertain of any further disadvantages. This indicates that faculty experience structural pressure and fears of retaliation, as well as hesitancy tackling a sensitive and pertinent issue as race in healthcare and healthcare education.

Case Study Discussion

In this section, participant answers are analyzed within the context of the literature presented in the answer key of Appendix D.

In the Family Nurse Practitioner (FNP) / Primary Care / General Specialties case study, the participant was able to identify that using cystatin C is a more accurate indicator of Kidney damage than AAGFR in two patient scenarios. In an organ transplant ethical dilemma where African American patients experience discrimination through biased social measurements of

transplant survival, the participant was able to identify the discrimination in transplant organ allocation.

In the Certified Nurse Midwife (CNM) / Women's Health Specialties case study, one participant failed to recognize normal lab values. An hour after C-section, two participants failed to identify a foundational sign of hemorrhage and injury to the bladder that should have been escalated to an emergency. This indicates both a need for clinical review, and review of prevalence of postpartum hemorrhage in African American women. All participants escalated care at 3:45pm with worsening signs of hemorrhage, 6 hours and 25 minutes earlier than when Kira Johnson passed due to post-partum hemorrhage. This indicates clinical competency in postpartum hemorrhage. Due to the gap of knowledge in normal lab values and difficulty identifying bladder injury, there is a demonstrated need for further PHCRP teaching.

One participant completed the Adult Gerontological Nurse Practitioner (AGNP) / Gerontological Specialties case study. This participant was able to define the 5 stages of a pressure ulcer. This participant successfully identified pressure ulcers in 2 darkly melanated patients but failed to recognize and diagnose a stage 1 pressure ulcer in a darkly melanated patient. They demonstrated understanding of delayed diagnosis of pressure ulcers in darkly melanated patients. Delays in care indicate a gap of knowledge in the treatment of darkly melenated patients. Further health equity training is needed to improve patient outcomes for marginalized patients.

No participants selected the Psychiatric Mental Health Nurse Practitioner (PMHNP) /Mental Health Specialties. No participants selected the Acute Care Nurse Practitioner (ACNP)/ Emergency Medicine / Urgent Care Specialties case study.

Implications for Practice

The implications that this PHCRP online training will have on clinical practice is an improvement in PHCRP principals, according to the demonstrated ES scores, which will bring SUCON closer to Seattle University's mission and values statement. This will be accomplished by addressing implicit and explicit biases in health education and will improve patient outcomes by preparing more structurally competent clinicians in the healthcare setting to treat a diverse patient population. The online training will empower faculty, and thus, students by improving faculty's understanding of the role of racism in health inequities and introduce actionable solutions to knowledge gaps of PHCRP, as indicated by the effectiveness of the case studies per increased ES scores. Faculty will gain meaningful, actionable PHCRP workshop material to incorporate into their class curriculum. Furthermore, faculty may satisfy the requirements of Revised Code of Washington 43.70.615 and 43.70.613.

The Revised Code of Washington (RCW) is the compilation of all permanent laws now in force in Washington state. It is a collection of Session Laws enacted by the Legislature and signed by the Governor or enacted via the initiative process. As racial and ethnic disparities in health care persist, findings presented in RCW 43.70.615 detailed that:

> "The legislature finds that women and people of color experience significant disparities from the general population in education, employment, healthy living conditions, access to health care, and other social determinants of health. The legislature finds that it shall

> be a priority for the state to develop the knowledge, attitudes, and practice skills of health professionals and those working with diverse populations to achieve a greater understanding of the relationship between culture and health and gender and health." (RCW 43.70.615, 2008)

To reduce racial and ethnic disparities in health care, Washington State has joined New Jersey in requiring cultural competency training for certain health care professionals. The legislation, signed into law in 2006, calls for the establishment of an ongoing multicultural health awareness and education program to raise awareness and educate health care professionals regarding the knowledge, attitudes, and practice skills necessary to care for diverse populations to achieve a greater understanding of the relationship between culture and health (RCW 43.70.615, 2008). All professions regulated by the Washington State Department of Health (DOH) must integrate multicultural education into their basic curriculum by July 1, 2008.

Furthermore, by January 1, 2024, all licensed healthcare providers in the state of Washington will be required to complete health equity continuing education training at least once every four years (RCW 43.70.613, 2021). Continuing education courses must maintain mandated minimum standards and incorporate implicit bias training, which include:

> "[…] instruction on skills to address the structural factors, such as bias, racism, and poverty, that manifest as health inequities. These skills include individual-level and system-level intervention, and self-reflection to assess how the licensee's social position can influence their relationship with patients and their communities. These skills enable a health care professional to care effectively for patients from diverse cultures, groups, and

> communities, varying in race, ethnicity, gender identity, sexuality, religion, age, ability, socioeconomic status, and other categories of identity. The courses must assess the licensee's ability to apply health equity concepts into practice" (RCW 43.70.613, 2021).

The PHCRP workshop in this study satisfies the required RCW's and brings SUCON's healthcare curriculum closer to the mission and value statement of Seattle University.

Limitations

The greatest obstacle to this study was faculty participation. Limited participation in this study could have been attributed to the sensitivity of the topic of race and racism in the healthcare setting. Although participation in this study was anonymous, engaging faculty in this difficult but crucial work created challenges in the recruitment process. Another obstacle was the time and effort required by faculty to voluntarily contribute an hour into an involved unfolding case study that challenged the participant and their clinical and social expertise.

Anonymous comments and suggestions were informally collected throughout the study. A common comment received is that the participant had a hard time understanding the definition of PHCRP throughout the study. The challenge with introducing PHCRP definitions and concepts at an earlier stage of an unfolding case study is the bias it introduces in directing the participant to answer within a PHCRP framework. This will create difficulties measuring baseline knowledge of PHCRP concepts and marked improvements to PHCRP concepts after completing the case study. This can be addressed in future studies by creating a separate PHCRP assessment workshop, a more comprehensive seminar on PHCRP, and a post-seminar assessment.

Another challenging data limitation in this study was the small sample size of five. A variable of any study is a large enough sample size to establish statistical significance. Due to this small sample size (n=5), a paired t-test was likely to produce a type II error. A type II error is described as a false-negative result and occurs when the test fails to detect an effect that actually exists. The probability of type II error is related to sample size and is most often described in terms of statistical power as the probability of rejecting a false-null hypothesis. Minimizing type II error and increasing statistical power are generally achieved with appropriately large sample sizes (calculated based on expected variability). A common pitfall in basic science studies is a sample size that is too small to robustly detect or exclude meaningful effects, thereby compromising study conclusions (Sullivan et al., 2016). This was the case in this project, as demonstrated by the paired t-test of the pre-post case-study survey shown below in Appendix G.

To address the likelihood of a Type II error and small sample size, a recommendation to Seattle University is to mandate the incorporation of PHCRP into faculty curriculum to ensure proper faculty participation for both an effective sample size, and to move faculty towards Seattle University's mission and value statement. These mandates would also satisfy the new Washington state regulations which will make continued learning in cultural competency mandatory for all licensed health clinicians beginning January 1, 2024.

Conclusions

In conclusion, there is a demonstrated knowledge improvement in PHCRP concepts among those who engaged with the online case studies. To address PHCRP knowledge deficits, ES scores demonstrate that overall, these case studies move faculty and curriculum towards health equity. In the spirit of Seattle University's mission and value statement, it is imperative to

incorporate PHCRP to align curriculum with the most up-to-date clinical research and health equity. Those engaging with the PHCRP online training displayed improvement in critical areas of PHCRP knowledge. Therefore, implementing a mandatory PHCRP training for faculty would be an efficient and low-cost method for incorporating diversity, equity, and inclusion content into faculty development and, subsequently, into the materials faculty use to teach the graduate nursing curriculum. Studies show that workshops addressing implicit bias and structural racism are effective and low cost and can be applied at any level (Ahmad & Shi, 2017). Furthermore, Washington state RCW 43.70.615, or "Multicultural health awareness and education program—Integration into health professions basic education preparation curriculum, and RCW 43.70.613, or "Health care professionals—Health equity continuing education, will make continued learning in cultural competency mandatory beginning January 1, 2024. Therefore, application of this PHCRP worship will not only bring nursing faculty closer to Seattle University's mission and value statement but will address the health equity requirements of Washington state's emerging health laws designed to address persistent racial health inequities.

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Appendices

Appendix A: Online Consent Form

Seattle University
Consent to Participate in Research

We're inviting you to participate in a research study titled "A Public Health Critical Race Praxis Approach to Anti-Racism in Nursing Academia" that seeks to investigate Public Health Critical Race Praxis (PHCRP) in nursing education, address faculty implicit and explicit racial biases in the classroom setting, empower faculty to practice and teach the most up-to-date research, and explore the likelihood of including PHCRP in your class curriculum to reduce patient harm.

This one-hour module will ask you to complete an online clinical case study specific to your specialty track and complete a pre-/post-intervention survey. The pre-/post-intervention survey will measure your knowledge of PHCRP, racial health disparities, healthcare education's role in racial health disparities, and your likelihood to use PHCRP in your curriculum to address implicit and explicit racial biases. Participation in this study is completely voluntary, and you may stop at any time without any consequences.

We'll collect the following indirect identifiers for the research study: Race, tenure status, and specialty track. We will not collect name, sex, and gender. This information is necessary to understand the effectiveness of this module.

- There are no known risks associated with this study. However, the combination of indirect identifiers may identify faculty. This project engages faculty in sensitive topics regarding racial health disparities in the healthcare setting, and implicit and explicit racial biases of faculty in the classroom setting. The risk of identification may affect your place of employment and cause discomfort. To protect the identity of faculty, name, sex, and gender will be excluded from data collection. In the event that the combination of indirect identifiers would serve to identify the participant, that participant's indirect identifiers will be excluded from the reported data.
- Whenever you provide information online, your data could be intercepted. We're using Qualtrics, which is a secure system to collect this data, but we can't completely eliminate this risk.
- To minimize the risk of anyone seeing your data who shouldn't, I will make sure your data is anonymous.
    - Only indirect identifiers will be collected which include race, tenure status, and specialty track.
    - Data will be stored in Qualtrics, a secure online survey software. The data will be stored for three years before being destroyed.
    - Your name will not be collected and will never be used in any public dissemination of these data. All research materials and consent forms will be stored electronically in Qualtrics which will only be accessed by the researcher.

This project will benefit faculty by addressing implicit and explicit racial biases in the classroom setting, improve course curriculum towards evidence-based practice and away from biologically false race-based metrics, and offers a sustainable tool to improve course curriculum for future classes. The social benefit of this study is to reduce patient harm by addressing biologically false race-based metrics taught in classroom settings to future healthcare providers.

Participation in the project will require no monetary cost to you.

Only I will have access to the information you provide, as well as my faculty supervisor, Dr. Jennifer Fricas, PhD, MPH, RN. If I share my findings in publications or presentations, the results will be in aggregate form with no direct identifiers. If I quote you, I'll use pseudonyms (fake names).

If you have any questions about this research, contact the Primary Investigator: Nawaf Alfaouri, RN, Doctoral Student, DNP, FNP, cell phone: (206) 953 6254, email: alfaourinawa@seattleu.edu. Faculty supervisor contact information: Dr. Jennifer Fricas, PhD, MPH, RN, phone: +1 (206) 296-2342, email: fricasj@seattleu.edu . If you have any questions about your rights as a research participant**,** contact the SU Institutional Review Board at 206-296-2585 / irb@seattleu.edu

If you meet the eligibility criteria below and would like to participate in this study, click the button to begin the survey. Remember, your participation is completely voluntary, and you're free to withdraw at any time.

- I am at least 18 years old
- I am a faculty or staff member at Seattle University College of Nursing

Appendix B: Pre-Survey Questions

Pre-Survey Questions

What is your tenure status at Seattle University?

- Tenured
- Tenure-Track
- Non-Tenure-Track

What is your race (Per US Census category)?

- Latino/a (Hispanic origin)
- Latino/a (non-Hispanic origin)
- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Other Pacific Islander
- Two or more races

The following are a series of Likert survey questions where you will be given a statement and asked to choose if you strongly agree, agree, neither agree or disagree, disagree, or strongly disagree. This survey will also include short answer questions for context.

I am familiar with Public Health Critical Race Praxis and its principles

Public Health Critical Race Praxis belongs in health education curriculum

Racism exists in teaching and learning about health at the university level

Racism impacts clinical decisions

Implicit bias impacts clinical decisions

Racism is a significant issue in healthcare

Race is a biological category

Patients have differing organ functions and lab normal values according to their race

Biologically, African American patients can tolerate pain more than White patients

Biologically, Native American patients can tolerate pain more than White patients

I will incorporate Public Health Critical Race Praxis in my course materials

I encourage others to incorporate Public Health Critical Race Praxis in their course materials

Short answer questions. To the best of your ability, please answer the below short answer questions in a few sentences or less. If you do not know the answer, simply write "I don't know" or give it your best attempt.

In a few sentences, define race.

In a few sentences, define racism.

In a few sentences, please define Public Health Critical Race Praxis.

In a few sentences, explain the role Public Health Critical Race Praxis plays in healthcare academia.

If any, what benefits does Public Health Critical Race Praxis bring to healthcare education?

If any, what disadvantages does Public Health Critical Race Praxis bring to healthcare education?

Appendix C: Selection of Specialties

To proceed to your specialty-specific module, select from the following options. If you teach in more than one specialty, please select the option you are most interested in.

Certified Midwife (CNM)/ Women's Health Specialties

Family Nurse Practitioner (FNP)/ Primary Care / General Specialties

Psychiatric Mental Health Nurse Practitioner (PMHNP) /Mental Health Specialties

Acute Care Nurse Practitioner (ACNP)/ Emergency Medicine / Urgent Care Specialties

Adult Gerontological Nurse Practitioner (AGNP) / Gerontological Specialties

Appendix D: Case Studies

Case Study: Maternal Mortality – For Certified Nurse Midwife (CNM)/ Women's Health Specialties

Note: If you do not know the answer or are unsure, give it your best attempt! This activity is meant to improve and update your clinical practices. Answers to this case study will be provided after the final survey.

Part 1

A 39-year-old African American woman presents to the labor and delivery unit with her husband at 10am for a scheduled routine C-section at 12pm. She is G2T1P0A0L1 and is at 38.5 weeks gestation. She completed pre-operation preparation, restricted solid foods eight hours before operation, showered with dial soap and used chlorhexidine gluconate (CHG) cloths, discontinued medications, drank 8 ounces of apple juice 2 hours before the c-section, and a foley catheter and IV has been placed. She is in good spirits and playing with her 19-month-old son in the pre-operation room and talking to her husband.

Her vitals are:

BP 123/75, HR 65, RR 12, O2 100%, Pain 0, BMI 20.

Fetal heart rate is 135BPM.

Her third trimester labs are:

Complete Blood Count

Erythropoietin (units/L) 150

Ferritin (ng/mL) 86

Folate, red blood cell (ng/mL) 432

Folate, serum (ng/mL) 10.7

Haptoglobin (mg/mL) 96

Hemoglobin (g/dL) 14.3

Hematocrit (%) 38

Iron, total binding capacity (mcg/dL) 495

Iron, serum (mcg/dL) 102

Mean corpuscular hemoglobin (pg/cell) 31

Mean corpuscular volume (xm3) 88

Platelet (x109/L) 214

Mean platelet volume (mcm3) 9.2

Red blood cell count (x106/mm3) 3.1

Red cell distribution width (%) 13.2

White blood cell count (x103/mm3) 5.9

Neutrophils (x103/mm3) 5.2

Lymphocytes (×103/mm3) 2.1

Monocytes (×103/mm3) 0.3

Eosinophils (×103/mm3) 0

Basophils (×103/mm3) 0

As a provider, you determine these results are (abnormal/normal)

Are they cleared for surgery? (yes/no)

If no, in a short sentence explain why. If yes, write "cleared for surgery".

Answer:

As a provider, you determine these results are:

Normal (vitals are stable and within normal limits).

Are they cleared for surgery?

Yes.

If no, in a short sentence explain why. If yes, write "cleared for surgery".

Cleared for surgery.

Part 2

You determine this patient's results are normal and have cleared this patient for surgery. The c-section is completed at 2pm and she delivered a healthy baby at 38.5 weeks gestation. A below average of 350ml of blood loss occurred in during surgery (postpartum hemorrhage > 1000mL). The patient has been transferred to post-op in the labor and delivery unit. She feels tired and would like to rest after her C-section. She is complaining of severe pain in her abdomen and would like to speak to the doctor before she rests.

Her pre-op vitals are: BP 123/75, HR 65, RR 12, O2 100%, Pain 0, BMI 20.

Her post-op vitals are: BP 109/55, HR 99, RR 14, O2 97%, Pain 0, BMI 20.

As a provider, how do you interpret these results?

Would you order any labs? If so, what labs would you order and why? (If vitals are normal, write "No labs")

How would you address the pain your patient is experiencing?

Answer:

As a provider, how do you interpret these results?

Elevated HR from base line can indicate hemodynamic response to decreased blood volume, decreased oxygen saturation from baseline, decreased BP from baseline can indicate a hemodynamic response to decreased blood volume

Would you order any labs? If so, what labs would you order and why? (If vitals are normal, write "No labs")

CBC rule out PPH.

How would you address the pain your patient is experiencing?

Further assessment of possible injury is warranted.

Part 3

A routine CBC was ordered and drawn at 2:30pm as the patient rests. You are awaiting the results of the CBC. At 2:45pm, the patient's husband notices a little blood in her foley catheter. You inspect the foley catheter and find a small amount of blood in the foley bag. The patient's husband is worried that something is wrong and would like to speak to the doctor.

You explain to the husband that:

Answer:

Blood in a foley catheter can indicate bladder injury during a C-section in 95% of bladder injury cases and warrants emergent follow-up. (Corriere & Sandler, 2006)

Part 4

It's 3:45pm, the results of the CBC have not returned yet. The patient is complaining of severe pain in her abdomen, and her vitals are:

BP 108/54, HR 110, RR 14, O2 97%, Pain 0, BMI 20.

The foley catheter has the same amount of blood as it had at 2:45pm and has not produced clots or bleeding since last inspection.

You explain to the husband that:

At this time, you order:

Answer:

Further assessment is warranted at first sight of blood in the foley catheter. Blood in a foley catheter can indicate bladder injury during a C-section in 95% of bladder injury cases and warrants emergent follow-up. (Corriere & Sandler, 2006)

Based on vital signs, blood in the foley catheter, and the California Maternal Quality Care Collaborative staging system, this patient should be triaged to an emergency room due to her unstable vital signs from baseline, an ultrasound should be performed on the bladder.

> **"California Maternal Quality Care Collaborative staging system** — The California Maternal Quality Care Collaborative OB Hemorrhage Emergency Management Plan table chart describes the following stages of PPH:
>
> ●Stage 0 – Every woman in labor/giving birth.
>
> ●Stage 1 – Blood loss >500 mL vaginal delivery or >1000 mL cesarean delivery **or** change in vital signs (by >15 percent **or heart rate ≥110 beats/minute**, blood pressure ≤85/45 mmHg, O_2 saturation <95 percent).
>
> ●Stage 2 – Continued bleeding with total blood loss <1500 mL.
>
> ●Stage 3 – Total blood loss >1500 mL **or** transfusion of more than two units packed red blood cells **or** unstable vital signs **or** suspicion of disseminated intravascular coagulation." (Atallah & Goffman, 2020)

Part 5:

At 4pm the results of the CBC return, they are:

Complete Blood Count

Erythropoietin (units/L) 150

Ferritin (ng/mL) 86

Folate, red blood cell (ng/mL) 432

Folate, serum (ng/mL) 10.7

Haptoglobin (mg/mL) 96

Hemoglobin (g/dL) 11.1 (Third trimester Hemoglobin 14.3)

Hematocrit (%) 32 (Third trimester Hematocrit 38)

Iron, total binding capacity (mcg/dL) 495

Iron, serum (mcg/dL) 102

Mean corpuscular hemoglobin (pg/cell) 31

Mean corpuscular volume (xm3) 88

Platelet (x109/L) 214

Mean platelet volume (mcm3) 9.2

Red blood cell count (x106/mm3) 3.1

Red cell distribution width (%) 13.2

White blood cell count (x103/mm3) 5.9

Neutrophils (x103/mm3) 5.2

Lymphocytes (×103/mm3) 2.1

Monocytes (×103/mm3) 0.3

Eosinophils (×103/mm3) 0

Basophils (×103/mm3) 0

What are your impressions?

What are next steps?

Are any diagnostic labs/imaging warranted at this time?

Answer:

Hemoglobin (g/dL) 11.1 (Third trimester Hemoglobin 14.3)

Hematocrit (%) 32 (Third trimester Hematocrit 38)

Although Hmg and Hct are within normal limits, they are markedly reduced from third trimester levels. Furthermore, hemoglobin and hematocrit values are also poor indicators of acute blood loss since they may not decline immediately after an acute bleed. These declines would indicate a later stage of acute blood loss. (Bonnar, 2000)

Further assessment is warranted at first sight of blood in the foley catheter. Blood in a foley catheter can indicate bladder injury during a C-section in 95% of bladder injury cases and warrants emergent follow-up. (Corriere & Sandler, 2006)

Part 6

A CT scan was ordered, but not placed as a stat order. At 4:30pm, you redraw a CBC.

A bedside ultrasound was preformed and reveals a mass of clots in the bladder.

At this time, you explain to the husband:

Your next steps are:

Answer:

Blood in a foley catheter can indicate bladder injury during a C-section in 95% of bladder injury cases and warrants emergent follow-up. (Corriere & Sandler, 2006) A mass of blood clots on an ultrasound confirms bladder injury. Considering this patient's unstable vital signs,

markedly reduced Hmg and Hct, blood in the foley bag, this is an emergency. This patient should be transferred to the emergency department.

Part 7

It is 5pm, a CT has not been conducted yet. The patient's husband is growing increasingly worried and impatient over the condition of his wife and has yelled at a nurse to get a CT done.

Your next actions are:

Answer:

Blood in a foley catheter can indicate bladder injury during a C-section in 95% of bladder injury cases and warrants emergent and immediate follow-up. (Corriere & Sandler, 2006) A mass of blood clots on an ultrasound confirms bladder injury. Considering this patient's unstable vital signs, markedly reduced Hmg and Hct, blood in the foley bag, this is an emergency. This patient should be transferred to the emergency department. This patient has been experiencing signs of hemorrhage since 2:45pm, 2 hours and 15 minutes ago.

Part 8

At 5:30pm, the second CBC drawn at 4:30pm shows:

Complete Blood Count

Erythropoietin (units/L) 150

Ferritin (ng/mL) 86

Folate, red blood cell (ng/mL) 432

Folate, serum (ng/mL) 10.7

Haptoglobin (mg/mL) 96

Hemoglobin (g/dL) 9.1 (2:30pm Hemoglobin 11.1)

Hematocrit (%) 29 (2:30pm Hematocrit 32)

Iron, total binding capacity (mcg/dL) 495

Iron, serum (mcg/dL) 102

Mean corpuscular hemoglobin (pg/cell) 31

Mean corpuscular volume (xm3) 88

Platelet (x109/L) 214

Mean platelet volume (mcm3) 9.2

Red blood cell count (x106/mm3) 3.1

Red cell distribution width (%) 13.2

White blood cell count (x103/mm3) 5.9

Neutrophils (x103/mm3) 5.2

Lymphocytes (×103/mm3) 2.1

Monocytes (×103/mm3) 0.3

Eosinophils (×103/mm3) 0

Basophils (×103/mm3) 0

What are your next steps?

Answer:

Hemoglobin (g/dL) 9.1 (Third trimester Hemoglobin 14.3, 2:30pm Hemoglobin 11.1)

Hematocrit (%) 29 (Third trimester Hematocrit 38, 2:30pm Hematocrit 32)

Although Hmg and Hct are within normal limits, they are markedly reduced from third trimester levels. Furthermore, hemoglobin and hematocrit values are also poor indicators of acute blood loss since they may not decline immediately after an acute bleed. These declines would indicate a later stage of acute blood loss. (Bonnar, 2000)

Further assessment is warranted at first sight of blood in the foley catheter. Blood in a foley catheter can indicate bladder injury during a C-section in 95% of bladder injury cases and warrants emergent follow-up. (Corriere & Sandler, 2006) A mass of blood clots on an ultrasound confirms bladder injury. Considering this patient's unstable vital signs, markedly reduced Hmg and Hct, blood in the foley bag, this is an emergency. This patient should be transferred to the emergency department. This patient has been experiencing signs of hemorrhage since 2:45pm, 2 hours and 45 minutes ago.

Part 9

At 7pm, the CT has not been initiated.

The patient is shivering uncontrollably and feels fatigued and cold. She is requesting blankets and water and complains of thirst. She appears pale.

Her vitals are:

BP 95/49, HR 129, RR 20, O2 95%, Pain 0, BMI 20.

What is your impression?

What is the appropriate next action?

Answer:

This patient's symptoms have markedly worsened, and shivering is a late sign of hemorrhage. Your patient is classified as a hemorrhagic shock and a surgical emergency. Your patient's blood pressure has markedly reduced since post-op, and their heart rate and respiratory rate have increased while their oxygen saturation has decreased. The appropriate action is to admit to emergency. This patient has shown signs of hemorrhage at 2:45pm, 4 hours and 15 minutes ago.

End of Module

At 12:30am, your patient was entered into emergency surgery for post-partum hemorrhage. During an incision to the abdomen, 3.5 liters of blood was discovered in an internal hemorrhage due to a bladder injury during a scheduled C-section. The patient coded during surgery and resuscitation efforts failed. This is the story of Kira Johnson, who died on April 12, 2016 at Cedars-Sinai Medical Center in Los Angeles past midnight, 10 hours after her planned C-section. She was a mother of one, a wife, spoke five languages fluently, had a pilot's license, was an avid skydiver, and was in incredible health. Her death could have been avoided with attention to her signs of hemorrhage and listening to this patient's reported symptoms.

A national study which investigated pregnancy-related mortality among black versus White women found that black women had a case-fatality rate 2.4 to 3.3 times higher than that of White women for five specific pregnancy complications including preeclampsia, eclampsia, abruptio placentae, placenta previa, and postpartum hemorrhage (Tucker et al., 2007)

Ways to support:

A significant proportion of severe maternal morbidity and mortality events are preventable. Provider factors such as inappropriate or delay in diagnosis or treatment and system factors such as communication failures and policies/procedures not in place or not followed are common preventability factors. Preventability of these events maybe higher among black than White women. In a study of maternal deaths, 46% of black and 33% of White maternal deaths were considered potentially preventable. Improved quality of care is often considered the most important factor in preventing these events. (Howell, 2018)

Support Senate bill S. 1042: https://www.congress.gov/bill/117th-congress/senate-bill/1042/text

Join the cause to reduce maternal mortality in African American women by supporting Kira's widowed husband, Charles Johnson, and understand how H.R.1318 became law: https://4kira4moms.com/

Learn the history of reproductive health and racism in America:

Prather, C., Fuller, T. R., Jeffries, W. L., 4th, Marshall, K. J., Howell, A. V., Belyue-Umole, A., & King, W. (2018). Racism, African American Women, and Their Sexual and Reproductive Health: A Review of Historical and Contemporary Evidence and Implications for Health Equity. Health equity, 2(1), 249–259. https://doi.org/10.1089/heq.2017.0045

Case Study: Kidney Staging, Treatment, and Transplantation – For Family Nurse Practitioner (FNP)/ Primary Care/ General Specialties.

Note: If you do not know the answer or are unsure, give it your best attempt! This activity is meant to improve and update your clinical practices. Answers to this case study will be provided after the final survey.

Part 1

You are an attending on a transplant ICU. You received a notification from the Organ Procurement and Transplantation Network that a kidney is available and potentially matched to two of your patients awaiting a kidney transplantation. You are reviewing the eligibility of your two of patients with the hospital's transplant board to see who the most appropriate match is to receive this Kidney.

You understand that the staging of Chronic Kidney Disease (CKD) is the following:

GFR stages	**GFR (mL/min/1.73 m^2)**	**Terms**
G1	≥90	Normal or high
G2	60 to 89	Mildly decreased
G3a	45 to 59	Mildly to moderately decreased
G3b	30 to 44	Moderately to severely decreased
G4	15 to 29	Severely decreased
G5	<15	Kidney failure (dialysis or transplantation needed)

Are there any considerations for African American (AA) patients in regard to Glomelular Filtration Rate (GFR)?

Answer:

Using AAGFR is inaccurate and leads to delayed care and transplantation for AA patients. New eGFR equations that incorporate creatinine and cystatin C but omit race are more accurate and led to smaller differences between Black participants and non-Black participants than new equations without race with either creatinine or cystatin C alone. (Inker et al., 2021)

Furthermore, a study published in 2021 found that if the race correction were removed, up to 1 out of every 3 Black patients would be reclassified as having a more severe stage of chronic kidney disease. And up to one-quarter of Black patients would have been reclassified from stage 3 to stage 4 of the disease — the final stage before kidney failure, which can trigger more advanced care. Of 2225 African American patients, 743 (33.4%) would hypothetically be reclassified to a more severe CKD stage if the race multiplier were removed from the CKD-EPI equation. Similarly, 167 of 687 (24.3%) would be reclassified from stage 3B to stage 4. Finally, 64 of 2069 patients (3.1%) would be reassigned from eGFR > 20 ml/min/1.73 m2 to eGFR ≤ 20 ml/min/1.73 m2, meeting the criterion for accumulating kidney transplant priority. Zero of 64 African American patients with an eGFR ≤ 20 ml/min/1.73 m2 after the race multiplier was removed were referred, evaluated, or waitlisted for kidney transplant, compared to 19.2% of African-American patients with eGFR ≤ 20 ml/min/1.73 m2 with the default CKD-EPI equation. (Ahmed et al., 2021)

Part 2:

In selecting an appropriate candidate for kidney transplantation, you are presented with two patients.

Patient 1:

58-year-old White male with end-stage renal disease due to chronic glomerulonephritis. Has been on hemodialysis for 6 years, 12 hours twice a week. **He has a GFR of 15%.** He is married with four children.

Patient 2:

54-year-old African American male with end stage renal disease after using a drug for migraine headaches that caused nephrotoxicity. Has been on hemodialysis for 8 years, 12 hours twice a week. **He has an AA GFR of 15%.** He is single with no children.

Based on GFR, what points would you argue in favor of a transplant for both patients?

Answer:

Both of these patients have a GFR of 15%. The 54-year-old African American patient has been on the waiting list for 2 years longer and is higher on the transplantation list when removing AAGFR from the equation. If the AA adjustment was removed from GFR, patient 2 would have a lower GFR than patient 1.

A study published in 2021 found that if the race correction were removed, up to 1 out of every 3 Black patients would be reclassified as having a more severe stage of chronic kidney disease. And up to one-quarter of Black patients would have been reclassified from stage 3 to stage 4 of the disease — the final stage before kidney failure, which can trigger more advanced care. Of 2225 African American patients, 743 (33.4%) would hypothetically be reclassified to a more severe CKD stage if the race multiplier were removed from the CKD-EPI equation. Similarly, 167 of 687 (24.3%) would be reclassified from stage 3B to stage 4. Finally, 64 of 2069 patients (3.1%) would be reassigned from eGFR > 20 ml/min/1.73 m2 to eGFR ≤ 20 ml/min/1.73

m2, meeting the criterion for accumulating kidney transplant priority. Zero of 64 African American patients with an eGFR ≤ 20 ml/min/1.73 m2 after the race multiplier was removed were referred, evaluated, or waitlisted for kidney transplant, compared to 19.2% of African-American patients with eGFR ≤ 20 ml/min/1.73 m2 with the default CKD-EPI equation. (Ahmed et al., 2021)

Part 3:

The U.S. Congress passed the National Organ Transplant Act (NOTA) in 1984 to address the organ donation shortage and improve the organ matching process. The act established the Organ Procurement and Transplantation Network (OPTN) to maintain a national system to match organs and individuals. The act also called for the network to be operated by a private nonprofit under federal contract. The United Network for Organ Sharing currently operates the OPTN for Health Resources and Services Administration (HRSA).

The United Network for Organ Sharing (UNOS) maintains the list for the national waiting pool and encourages transplant centers to consider medical need, probability of success, and time on the waiting list in selecting a patient, although this is not a requirement. In selecting an appropriate candidate for kidney transplantation, the hospital's transplant board is reviewing your two patients:

Patient 1:

58-year-old White male with end-stage renal disease due to chronic glomerulonephritis. Has been on hemodialysis for 6 years, 12 hours twice a week. **He has a GFR of 15%.** He is married with four children. 129,000 salary, works as a project manager at an environmental conservation firm. Supportive family.

Patient 2:

54-year-old African American male with end stage renal disease after using a drug for migraine headaches that caused nephrotoxicity. Has been on hemodialysis for 8 years, 12 hours twice a week. **He has an AA GFR of 15%.** He is single with no children. 38,000 salary, worked janitorial services for an elementary school, currently on leave and at risk of unemployment. Has a distant cousin on the east coast. Does not have other family members in social circle.

Based on these patient's narratives, a colleague on the hospital's transplantation board discusses the merit of each patient and is considering each patient's family support for survivability and their contributions to society through their work and salary.

Would you argue for or against these considerations? Explain why

Answer:

Measurements of the worthiness of an organ recipient based on merit exacerbates racial health disparities, as the underlying measurements of income, social support, and life outcomes are directly affected by race disparities.

> "There is wide societal acceptance of excluding social worth or value and predictors of group outcomes from consideration in utility models of allocation. There are at least two main reasons for such exclusion. First, considering one person more useful to society than another, based on prevailing social values, may be a matter of opinion or good fortune in the random distribution of natural and socially cultivated talents and abilities. We add insult to injury when we withhold the benefits of transplantation from those who may not be as likely to contribute to society as those more fortunately endowed. Second, even if data were to show that socially disadvantaged groups have worse transplant outcomes, considerations of justice require that patients be assessed individually rather than merely by group membership in an attempt to reduce healthcare disparities related to social inequities" (Organ Procurement and Transplantation Network, 2015)

Furthermore, studies show that social support does not affect the outcome of a transplant patient, yet the overwhelming majority of physicians strongly consider social support as a factor in determining transplant recipient worthiness.

> "Most providers (88.7%) reported having used inadequate social support along with other factors when making listing decisions. Most (86.3%) agreed or strongly agreed that patients with inadequate support are evaluated less favourably for transplantation than similar patients with greater support. Most providers (71.4%) perceived social support was important for preventing organ waste (utility). Yet, a quarter of respondents (24.3%) thought using social support to determine transplant eligibility was unfair or were unsure about its fairness. Nearly half of respondents (42.4%) were only somewhat or not at all confident in using social support to determine transplant suitability. […] patients who cannot demonstrate sufficient social support may be excluded from kidney transplantation, resulting in differential access to care. Compared with other evidence-based criteria used to determine transplant eligibility, social support remains controversial because of its subjectivity, lack of uniform standards for assessment and because its relationship to post-transplant outcomes remains uncertain. […] use of social support may disproportionately affect vulnerable populations which are less able to identify caregivers with flexibility to leave work, with more strained support systems, and less able to self-finance home-based assistance. Further disadvantaging vulnerable populations by increasing barriers to transplantation raises distributive justice concerns, including the potential for exacerbating socioeconomic disparities." (Ladin et al., 2018)

Part 4:

Patient 1:

58-year-old White male with end-stage renal disease due to chronic glomerulonephritis. Has been on hemodialysis for 6 years, 12 hours twice a week. **He has a GFR of 15%.** He is married with four children.

Patient 2:

54-year-old African American male with end stage renal disease after using a drug for migraine headaches that caused nephrotoxicity. Has been on hemodialysis for 8 years, 12 hours twice a week. **He has an AA GFR of 15%.** He is single with no children.

Due to AAGFR guidelines in your hospital, Patient 1 received the kidney transplant and patient 2 was classified as stage 4.

Do you agree with this? Briefly explain your reasoning.

Answer:

Patient 2 is stage 5. Both patients have a GFR of 15%. The 54-year-old AA patient has been on the waiting list for 2 years longer and is higher on the transplantation list when removing AAGFR from the equation. A study published in 2021 found that if the race correction were removed, up to 1 out of every 3 Black patients would be reclassified as having a more severe stage of chronic kidney disease. And up to one-quarter of Black patients would have been reclassified from stage 3 to stage 4 of the disease — the final stage before kidney failure, which can trigger more advanced care. Of 2225 African American patients, 743 (33.4%) would hypothetically be reclassified to a more severe CKD stage if the race multiplier were removed from the CKD-EPI equation. Similarly, 167 of 687 (24.3%) would be reclassified from stage 3B to stage 4. Finally, 64 of 2069 patients (3.1%) would be reassigned from eGFR > 20 ml/min/1.73 m2 to eGFR ≤ 20 ml/min/1.73 m2, meeting the criterion for accumulating kidney transplant priority. Zero of 64 African American patients with an eGFR ≤ 20 ml/min/1.73 m2 after the race multiplier was removed were referred, evaluated, or waitlisted for kidney transplant, compared to 19.2% of African-American patients with eGFR ≤ 20 ml/min/1.73 m2 with the default CKD-EPI equation. (Ahmed et al., 2021)

Part 5:

You are managing a new patient on your unit. She is a 32-year-old African American female with a serum creatine of 3.9. You are using an equation to determine her CKD stage. In adults, the most widely used equations for estimating glomerular filtration rate (GFR) from serum creatinine are the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation and the isotope dilution mass spectrometry (IDMS) traceable Modification of Diet in Renal Disease (MDRD) Study equation.

The equation is:

GFR (mL/min/1.73 m^2) = 175 × (Scr)-1.154 × (Age)-0.203 × (0.742 if female) × (1.212 if African American) (conventional units)

Use the following link to calculate her GFR using the MDRD equation.

https://www.niddk.nih.gov/health-information/professionals/clinical-tools-patient-management/kidney-disease/laboratory-evaluation/glomerular-filtration-rate-calculators/mdrd-adults-conventional-units

Her serum creatinine is 3.9, age 32, female, AA

What is her CKD stage? And at what stage do you start dialysis?

Answer:

Result: AAGFR 16 mL/min/1.73 m² (Stage 4)

Dialysis is initiated at stage 5 of CKD.

Part 6:

Your 32 year old African American female patient with a serum creatine of 3.9 is classified as stage 4 CKD.

Use the following link to calculate her GFR and deselect the AA option in the MDRD equation.

https://www.niddk.nih.gov/health-information/professionals/clinical-tools-patient-management/kidney-disease/laboratory-evaluation/glomerular-filtration-rate-calculators/mdrd-adults-conventional-units

What is her CKD stage? Is dialysis appropriate?

Answer:

Her GFR, when removing her race variable, is 13 mL/min/1.73 m² (Stage 5)

A study published in 2021 found that if the race correction were removed, up to 1 out of every 3 Black patients would be reclassified as having a more severe stage of chronic kidney disease. And up to one-quarter of Black patients would have been reclassified from stage 3 to stage 4 of the disease — the final stage before kidney failure, which can trigger more advanced care. Of 2225 African American patients, 743 (33.4%) would hypothetically be reclassified to a more severe CKD stage if the race multiplier were removed from the CKD-EPI equation. Similarly, 167 of 687 (24.3%) would be reclassified from stage 3B to stage 4. Finally, 64 of 2069 patients (3.1%) would be reassigned from eGFR > 20 ml/min/1.73 m2 to eGFR ≤ 20 ml/min/1.73 m2, meeting the criterion for accumulating kidney transplant priority. Zero of 64 African American patients with an eGFR ≤ 20 ml/min/1.73 m2 after the race multiplier was removed were referred, evaluated, or waitlisted for kidney transplant, compared to 19.2% of African-American patients with eGFR ≤ 20 ml/min/1.73 m2 with the default CKD-EPI equation. (Ahmed et al., 2021)

End of module:

When including the African American variable in the current GFR equation for your patients who identify as African American, your first patient was denied a kidney transplant although they were on the waiting list for longer and suffered worse a worse GFR, and your second patient had kidney dialysis delayed. Race, an arbitrary social construct, has directly impacted their quality of care through a false biological metric.

What are your reflections on this phenomenon? What are some suggested solutions?

Case study: Emergency Room Psychiatric Patient Scenario – For Psychiatric Mental Health Nurse Practitioner (PMHNP)/ Mental Health Specialties

Note: If you do not know the answer or are unsure, give it your best attempt! This activity is meant to improve and update your clinical practices. Answers to this case study will be provided after the final survey.

Part 1:

A 38-year-old African American man was brought to the ER by family members who were concerned that he had been socially withdrawn for three weeks. The family stated he has had a depressed mood for most of the day, every day, for three weeks. They report he had not reported to work for three weeks, is eating, and drinking very little with considerable weight loss and is not sleeping well. The family states he makes self-depreciating statements and feels worthless. In a psychiatric evaluation, the patient was noted to be sitting very still, with a blunt affect and limited eye contact. The patient endorsed hearing voices that made derogatory comments about his behavior, and that this is the first time he has heard these voices. He stated he hears the voices when he feels worthless, can't sleep well, can't focus, and has had suicidal thoughts. When asked if he has ingested any medications or recreational drugs, he responded "No, I don't do drugs. Why do you want to know? Are you going to report me to the police?"

What are your differential diagnoses?

What additional questions may you have for the patient or their family members?

Answer:

"Differential Diagnosis

The differential diagnosis of unipolar major depression with psychotic features includes:

●Unipolar major depression without psychotic features

●Schizophrenia and schizoaffective disorder

●Bipolar major depression with psychotic features

The correct diagnosis is essential for treatment

Unipolar major depression without psychotic features — Unipolar major depression is present in both unipolar major depression with psychotic features and unipolar major depression without psychotic features. Psychotic depression is distinguished by the presence of delusions and hallucinations. In addition, psychotic depression is characterized by more numerous and severe symptoms of major depression, compared with nonpsychotic depression. Suicidal ideation, suicide attempts, and comorbid anxiety disorders are also more common in psychotic depression.

This patient is experiencing symptoms of Unipolar Depression with psychotic features. This differential is ruled out.

> **Schizophrenia and schizoaffective disorder** — Unipolar major depression with psychotic features, schizophrenia, and schizoaffective disorder can all present with delusions and hallucinations. However, in unipolar psychotic depression, delusions and hallucinations occur only during an episode of major depression. By contrast, in schizophrenia and schizoaffective disorder, psychotic symptoms can and do occur in the absence of major depression. The clinical features and diagnosis of schizophrenia and schizoaffective disorder are discussed separately, as is the assessment and management of depression in patients with schizophrenia.
>
> This patient only experiences psychotic symptoms during a major depressive episode per his report, in contrast to schizophrenia where psychotic symptoms occur with or without depression. Schizophrenia and schizoaffective disorder is ruled out for this patient.
>
> **Bipolar major depression with psychotic features** — Episodes of major depression with (or without) psychotic features can occur in both unipolar major depressive disorder and bipolar disorder. Bipolar psychotic depression is diagnosed if the patient has a prior history of mania, mixed mania, or hypomania; otherwise, the episode of psychotic major depression is unipolar. The clinical manifestations and diagnosis of major depression, unipolar major depressive disorder, and bipolar disorder are discussed separately." (Rothschild, 2022)

Per this patient's report, this is the first episode of psychosis, and has no history of prior mania. Bipolar major depression with psychotic features is ruled out for this patient. (American Psychiatric Association, 2013)

Part 2:

Recap of case study:

A 38-year-old African American man was brought to the ER by family members who were concerned that he had been socially withdrawn for three weeks. The family stated he has had a depressed mood for most of the day, every day, for three weeks. They report he had not reported to work for three weeks, is eating, and drinking very little with considerable weight loss and is not sleeping well. The family states he makes self-depreciating statements and feels worthless. In a psychiatric evaluation, the patient was noted to be sitting very still, with a blunt affect and limited eye contact. The patient endorsed hearing voices that made derogatory comments about his behavior, and that this is the first time he has heard these voices. He stated he hears the voices when he feels worthless, can't sleep well, can't focus, and has had suicidal thoughts. When asked if he has ingested any medications or recreational drugs, he responded "No, I don't do drugs. Why do you want to know? Are you going to report me to the police?"

You asked the patient if they are suicidal today, and if they have a plan to commit suicide. You asked the patient if they are homicidal, have had homicidal thoughts in the past, and if they have plans to hurt anyone. The patient vehemently rejected these questions and endorsed feeling depressed, not suicidal today, and that the voices are telling him he is worthless.

What is your working diagnosis?

What is the appropriate treatment for your diagnosis?

Is involuntary inpatient treatment recommended?

Answer:

Unipolar Major Depression with Psychotic Features (Working diagnosis)

> "Unipolar major depression with psychotic features is a severe subtype of unipolar major depression (major depressive disorder). The psychotic symptoms are delusions and/or hallucinations that are frequently consistent with depressive themes of guilt and worthlessness. Psychotic depression and nonpsychotic depression differ in their diagnosis, treatment, and prognosis.
>
> Unipolar major depression (major depressive disorder) is diagnosed in patients who have suffered at least one major depressive episode and have no history of mania or hypomania. A major depressive episode is a two week or longer period with five or more of the following symptoms: depressed mood, loss of interest or pleasure in most activities, insomnia or hypersomnia, change in appetite or weight, psychomotor retardation or agitation, low energy, poor concentration, guilt, and recurrent thoughts about death or suicide. The clinical presentation and diagnosis of unipolar major depression are discussed further." (Rothschild, 2022)

DSM-5 diagnostic criteria for a major depressive episode

A. 5 (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least 1 of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.
NOTE: Do not include symptoms that are clearly attributable to another medical condition.
1) Depressed mood most of the day, nearly every day, as indicated by either subjective report (eg, feels sad, empty, hopeless) or observations made by others (eg, appears tearful). (NOTE: In children and adolescents, can be irritable mood.)
2) Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation).
3) Significant weight loss when not dieting or weight gain (eg, a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. (NOTE: In children, consider failure to make expected weight gain.)
4) Insomnia or hypersomnia nearly every day.

5) Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
6) Fatigue or loss of energy nearly every day.
7) Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
8) Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by their subjective account or as observed by others).
9) Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.
B. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
C. The episode is not attributable to the direct physiological effects of a substance or to another medical condition.
NOTE: Criteria A through C represent a major depressive episode.
NOTE: Responses to a significant loss (eg, bereavement, financial ruin, losses from a natural disaster, a serious medical illness or disability) may include the feelings of intense sadness, rumination about the loss, insomnia, poor appetite, and weight loss noted in Criterion A, which may resemble a depressive episode. Although such symptoms may be understandable or considered appropriate to the loss, the presence of a major depressive episode in addition to the normal response to a significant loss should also be carefully considered. This decision inevitably requires the exercise of clinical judgement based on the individual's history and the cultural norms for the expression of distress in the context of loss.
D. The occurrence of the major depressive episode is not better explained by schizoaffective disorder, schizophrenia, schizophreniform disorder, delusional disorder, or other specified and unspecified schizophrenia spectrum and other psychotic disorders.
E. There has never been a manic or hypomanic episode.
NOTE: This exclusion does not apply if all of the manic-like or hypomanic-like episodes are substance-induced or are attributable to the physiological effects of another medical condition.

Specify:
With anxious distress
With mixed features
With melancholic features
With atypical features
With psychotic features
With catatonia
With peripartum onset
With seasonal pattern

(American Psychiatric Association, 2013)

Treatment:

> "The goal of treating unipolar psychotic depression is remission, which is defined as resolution of both the psychotic symptoms (delusions or hallucinations) and depressive symptoms. Patients whose psychosis resolves and whose depression improves to the point that only one or two symptoms of mild intensity persist are also regarded as remitted. For patients who do not achieve remission, a reasonable goal is response, which is defined as stabilization of the patient's safety and substantial improvement in the number, intensity, and frequency of psychotic and mood symptoms.
>
> Depressive and psychotic symptoms should be monitored regularly with clinical interviews that pay particular attention to:
>
> ●Suicidal ideation (This patient has had a history of SI, but does not endorse having SI in the clinic today)
>
> ●Suicide plans (This patient does not have a suicide plan)
>
> ●Psychotic symptoms that place the patient at imminent risk of coming to harm (eg, auditory hallucinations commanding the patient to kill themselves) – This patient denies HI and has no plans to harm anyone. This patient should receive talk therapy, antipsychotics to treat acute psychosis, and be prescribed antidepressants today with weekly or monthly monitoring.

The frequency of assessment generally ranges from daily to monthly, depending upon the severity of persistent symptoms. Hospitalized patients are monitored daily, and patients with active suicidal ideation, a specific plan, and intent to kill themselves may require constant observation. Outpatients who have not achieved substantial improvement in the number, intensity, and frequency of psychotic and mood symptoms are generally seen weekly; those who have improved substantially may be seen every two to four weeks until they remit.

First line — The suggested appropriate treatment for unipolar major depression with psychotic features is either of the following:

●Antidepressant plus an antipsychotic, or

●Electroconvulsive therapy (ECT)" (Rothschild, 2022)

"Choosing a treatment — A review of low quality studies found that ECT and the combination of an antidepressant plus an antipsychotic each improved symptoms of unipolar psychotic depression to a similar degree; thus, the initial choice for treating unipolar psychotic depression is based upon other factors. Combination pharmacotherapy is generally selected as initial treatment because it is easier to administer, more widely available, and more acceptable to patients compared with ECT.

However, because ECT is generally faster than pharmacotherapy, ECT should be used initially for patients with severe psychosis that places the patient at imminent risk of coming to harm (eg, the patient is distracted by hallucinations to the point of unwittingly walking into moving traffic), severe suicidality (eg, active suicidal ideation with a plan and intent), or malnutrition secondary to food refusal. Initial treatment with ECT is also reasonable for patients who prefer it or responded well to it during prior episodes of unipolar psychotic depression. Another factor to consider is cost.

Studies showing that the combination of an antidepressant and an antipsychotic is comparable with ECT for unipolar psychotic depression were generally open-label, and often included nonrandom assignment or consisted of retrospective chart reviews. Patients with heterogeneous diagnoses were included, and different types of ECT (bilateral and unilateral) were compared with different combinations of tricyclic antidepressants and first-generation antipsychotics prescribed at varying doses for different lengths of time.

Antidepressant plus antipsychotic — Based upon randomized trials, we prefer the combination of an antidepressant and an antipsychotic rather than antidepressant monotherapy or antipsychotic monotherapy for unipolar psychotic depression. This results in better patient adherence and outcomes and is consistent with multiple practice guidelines.

Choosing a combination — We favor treating unipolar psychotic depression with antidepressant/antipsychotic combinations that have demonstrated efficacy in randomized trials. The following combinations have shown beneficial effects compared with

antidepressant monotherapy, antipsychotic monotherapy, or placebo in well-designed, sufficiently large trials:

●Sertraline plus olanzapine

●Fluoxetine plus olanzapine

●Venlafaxine plus quetiapine

●Amitriptyline plus haloperidol

●Amitriptyline plus perphenazine" (Rothschild, 2022)

In the event that you diagnosed this patient with schizophrenia:

"Overdiagnosis or misdiagnosis of schizophrenia among African American clients is a longstanding and critical disparity in mental health services. Overdiagnosis of schizophrenia is detrimental because it increases the potential for treatment with the wrong medications. Inadequate assessment of mood disorders, co-occurring substance abuse, and client characteristics are three factors believed to be associated with the overdiagnosis of schizophrenia. This article examines the relationships among demographic characteristics, co-occurring substance abuse, and admission diagnoses of schizophrenia and mood disorder for clients admitted to state psychiatric hospitals in Indiana. Data were obtained from the state management information system for a sample of 2,404 clients. The sample comprised White clients (80.5 percent) and African American clients (19.5 percent). All but a few of the clients were involuntarily hospitalized, and more than half of them had a diagnosis of schizophrenia. African American clients were less frequently diagnosed with bipolar and major depressive disorders and more frequently diagnosed with schizophrenia than were White clients. After controlling for the influence of other demographic variables, client race was the strongest predictor of admission diagnoses of schizophrenia. Implications for social work practice in the field of mental health and mental health services research are discussed." (Barnes, 2008)

Part 3:

Your patient was told that he would need to be involuntarily admitted to an inpatient psychiatric unit to monitor and treat his psychotic symptoms. He immediately rejected this plan and became aggressive, picked up a chair, and threw it at the nursing staff and attempted to leave the room yelling "I want to go home!". Your patient was restrained for throwing a chair and settled down after family intervened. The family endorsed trusting your judgement of the appropriateness to involuntarily admit this patient.

Is an involuntary admission into an inpatient psychiatric unit an appropriate action?

Answer:

This patient should have received the following treatment:

> "The goal of treating unipolar psychotic depression is remission, which is defined as resolution of both the psychotic symptoms (delusions or hallucinations) and depressive symptoms. Patients whose psychosis resolves and whose depression improves to the point that only one or two symptoms of mild intensity persist are also regarded as remitted. For patients who do not achieve remission, a reasonable goal is response, which is defined as stabilization of the patient's safety and substantial improvement in the number, intensity, and frequency of psychotic and mood symptoms.
>
> Depressive and psychotic symptoms should be monitored regularly with clinical interviews that pay particular attention to:
>
> ●Suicidal ideation (This patient has had a history of SI, but does not endorse having SI in the clinic today)
>
> ●Suicide plans (This patient does not have a suicide plan)
>
> ●Psychotic symptoms that place the patient at imminent risk of coming to harm (eg, auditory hallucinations commanding the patient to kill themselves) – This patient denies HI and has no plans to harm anyone. This patient should receive talk therapy, antipsychotics to treat acute psychosis, and be prescribed antidepressants today with weekly or monthly monitoring.
>
> The frequency of assessment generally ranges from daily to monthly, depending upon the severity of persistent symptoms. Hospitalized patients are monitored daily, and patients with active suicidal ideation, a specific plan, and intent to kill themselves may require constant observation. Outpatients who have not achieved substantial improvement in the number, intensity, and frequency of psychotic and mood symptoms are generally seen weekly; those who have improved substantially may be seen every two to four weeks until they remit.
>
> First line — The suggested appropriate treatment for unipolar major depression with psychotic features is either of the following:
>
> ●Antidepressant plus an antipsychotic, or
>
> ●Electroconvulsive therapy (ECT)
>
> This approach is consistent with treatment guidelines from the American Psychiatric Association" (Rothschild, 2022)

This patient's diagnosis is Unipolar Depression with Psychosis based on their presentation.

The following resources are adapted from the case study titled "Racism as a Unique Social Determinant of Mental Health: Development of a Didactic Curriculum for Psychiatry Residents." (Medlock et al., 2017)

In the event that this patient was diagnosed with schizophrenia and admitted involuntarily, some considerations for misdiagnosis are the following:

"Clinicians may experience a subjective collection of clinical thought process.

- Over interpreting "positive symptoms" (Gara et al., 2012) (Neighbors et al., 2003)
  - Psychotic symptoms (affective psychosis) wrongly judged to be more chronic and persistent
- Over interpreting "negative symptoms"
  - impaired role functioning, communication barriers, styles, wariness of powerful institutions
- Epidemiologically, no racial differences between White and African American patients (Gibbs, 2013)
- In clinical settings, African Americans have (Hu et al., 1991) (Lawson et al., 1994) (Snowden & Cheung, 1990):
  - Higher odds of schizophrenia spectrum diagnosis
  - Lower odds of affective psychosis diagnosis

An additional clinician-mediated factor leading to misdiagnosis is the over-interpretation of "psychotic" symptoms. For instance, black patients who may be wary of healthcare workers and institutions due to prior maltreatment may be viewed as paranoid or described as having blunted affect.

How did these factors influence clinical decision-making?

- Patient factors
  - More severe illness at presentation
  - "Psychotic" symptoms
  - Mistrust of healthcare
- Clinician factors
  - Over-interpreting negative symptoms
  - Affective symptoms not elicited

Empirical reasons for misdiagnosis of schizophrenia:

Patient factors:

More severe illness at presentation: brought to ER with what could be interpreted as psychotic or catatonic symptoms

"Psychotic" symptoms: limited eye contact, blunted affect: what's the differential for this presentation besides a primary psychotic disorder? Depression? Appropriate suspiciousness? Were other possibilities considered?

Mistrust of healthcare: what could be culturally appropriate suspiciousness was taken as evidence for a psychotic disorder

Clinician factors:

Over-interpreting negative symptoms: negative affect and behavior viewed as ”psychotic” rather than possibly mood-related (or culturally-mediated).

Affective symptoms not elicited or de-emphasized: pt never asked about his mood; “paranoia” emphasized as prominent symptom” (Medlock et al., 2017)

Part 4:

Your patient continued to endorse that they do not have suicidal or homicidal ideation in the hospital today and wants to leave because the voices in his head are getting louder. On the inpatient psychiatric unit, oral lorazepam was written as a standing regimen, scheduled three times daily, however, the patient declined medications due to concerns about negative side effects. The attending psychiatrist became increasingly concerned that the patient's paranoia could interfere with treatment. Oral olanzapine was offered as an alternative treatment but was also declined by the patient.

Are these medications appropriate?

What other treatments would you recommend?

Answer:

Adapted from the case study titled “Racism as a Unique Social Determinant of Mental Health: Development of a Didactic Curriculum for Psychiatry Residents.” (Medlock et al., 2017)

“African Americans are:

Less likely to receive atypical antipsychotics (lower risk of extrapyramidal symptoms)

More likely to receive long-acting injectable formulations (perception of more severe illness)

- Kuno, et al., 2002: 2,515 adult Medicaid recipients – African-American (61%) and Caucasian (39%) subjects treated for schizophrenia and followed for 1 year
- African Americans were **less** likely than Caucasian subjects:
  - To receive clozapine (8% versus 15%, respectively)
  - To receive risperidone (25% versus 31%)
- African Americans were **more** likely than Caucasian subjects:
  - To receive depot antipsychotics (26% versus 14%).

Furthermore, misdiagnosis can lead to disparities in treatment.

- Historically, treatment decisions have not been made independent of race. (Copeland et al., 2003)
  - 1975: African American patients in teaching hospitals were less likely to receive psychotropic medication compared to Caucasian patients.
  - 1987: Among outpatients in New Haven, African American men were more likely to be on depot antipsychotics.
  - Mid-1990s: Among veterans with psychosis, African American patients were more likely to be prescribed depot antipsychotics. " (Medlock et al., 2017)

Part 5:

Several hours after involuntary admission into the inpatient psychiatric unit, the nurse and mental health specialist were taking this patient's vitals and stated the patient became agitated when they asked him where he worked and if he uses illicit drugs. The nursing staff felt unsafe around this patient and suggested Haldol be administered when the patient became slightly agitated with the questioning. They stated he told them to "get the fuck out of his face before he throws a chair at them. I want to talk to a counselor."

What is your impression of the situation?

Is Haldol an appropriate intervention if this patient becomes agitated?

Would you consider giving Haldol in a depot injection? Briefly explain your reasoning.

Answer:

De-escalation should be your first action. This patient is requesting talk therapy, and rapport has yet to be established to address this patient's mistrust with healthcare providers and his care plan. Furthermore, this patient could have benefited from an antipsychotic and antidepressant with weekly or monthly monitoring based on his presentation.

Particularly, this patient should be prescribed a second-generation antipsychotic.

> "Second-generation antipsychotics are preferred because they tend to cause fewer extrapyramidal symptoms (EPS; ie, akathisia, dystonia, parkinsonism) than first-generation antipsychotics. Meta-analysis comparing overall efficacy and effects of antipsychotics showed less EPS associated with all second-generation antipsychotics studied compared with the first-generation antipsychotic, haloperidol. Aside from this distinction, therapeutic effects and adverse effects are not significantly different between first- and second-generation antipsychotics and likelihood of specific adverse effects are heterogenous within each group. Although clozapine is more effective than other agents, it is reserved for patients who have not responded to other antipsychotics because it has significant side effects and medical risks that require careful monitoring." (Zhang et al., 2013)

Part 6:

The attending psychiatrist on the unit reviews your notes on your patient and believes this patient has schizophrenia based on their auditory hallucinations but did not assess the patient himself.

Write down a short reflection on their clinical judgement. What might be the problem with this approach?

Answer:

Adapted from "Racism as a Unique Social Determinant of Mental Health: Development of a Didactic Curriculum for Psychiatry Residents" case study. (Medlock et al., 2017)

> "The legacy of slavery and racism, as well as the current realities of racial oppression and violence, has uniquely impacted the mental health of African Americans. For African Americans, mental health inequities began during the time of colonialism and slavery, when myths of racism were being integrated into the developing field of psychiatry. By the end of the 19th century, many psychologists accepted an idea that African Americans were biologically inferior, with smaller brains and a natural instinct for labor. African Americans who participated in the Abolitionist and Civil Rights movements were met with prejudice by mental health practitioners, who labeled them schizophrenic due to their supposed pathologic desire for equality.
>
> The overdiagnosis of schizophrenia among African Americans persists today, and they are more likely to be treated with antipsychotic medications that can have lasting, negative side effects. Additionally, African Americans have higher rates of severe depression yet lower rates of treatment compared to White populations. African Americans are less likely to receive office-based counseling for psychological stressors and are more likely to be seen in emergency rooms. Among Whites, there is a persistence of negative racial stereotypes of African Americans as unintelligent, lazy, preferring to live off welfare, and prone to violence." (Medlock et al., 2017)

Part 7:

During your assessment of your patient, he started repeatedly screaming "I want to speak to a counselor" and demanding to be released from inpatient psychiatry. He became increasingly agitated as two nurses and a mental health specialist arrived to assist you with this situation. He screamed "You're going to kill me, you're going to drug me".

What actions would you take in this situation?

Answer:

Deescalate. This patient has Unipolar Major Depression with Acute Psychosis and has a distrust of the healthcare system and is requesting to speak to a counselor for talk therapy.

Adapted from the case study titled "Racism as a Unique Social Determinant of Mental Health: Development of a Didactic Curriculum for Psychiatry Residents." (Medlock et al., 2017)

"Take home points:

- African-American patients are:
    - More likely to be diagnosed with psychotic disorders
    - More likely to receive typical antipsychotics
    - More likely to receive depot antipsychotics
    - Less likely to receive clozapine
    - Less likely to receive ECT
    - Less likely to be treated by an office-based psychiatrist
- These treatment disparities lead to reduced symptom remission and more chronic impairment.
- These disparities can be addressed by providers:
    - Who are aware of their own biases
    - Who are aware of unique patient presentations
    - Who consider broad differential diagnoses for every patient
    - Who make treatment recommendations based on efficacy, not convenience" (Medlock et al., 2017)

Part 8:

A 26-year-old White male walked into the ER complaining of imminent danger, missing work for three weeks, and not eating or drinking. In a psychiatric evaluation, the patient was noted to be sitting very still, with a flat affect and no eye contact. He endorsed hearing voices that tell him to "kill the bad people", and that he sees "shadow agents following me everywhere". He stated he can't sleep well, can't focus, and has had suicidal thoughts in the past. He is speaking in tangential topics and refers to himself as "the chosen one", who is given a special assignment from God to cleanse the earth from shadow people. His electronic medical records shows that he has visited the emergency room 7 months ago for the same chief complaint, and the provider noted that these symptoms have been ongoing. When you asked this patient if he has been hearing these voices since his last ER visit, he endorsed "hearing them every day for years, I have to kill the shadow people."

Based on the above assessment, what is your working diagnosis?

Answer:

This question is to distinguish the classic presentation and diagnosis of Schizophrenia from Unipolar Depression with Psychotic features modeled after the DSM-5 criteria, and to challenge possible racial bias in symptom presentation in African American patients. This

patient's working diagnosis is Schizophrenia. This patient has experienced continuous symptoms for over 6 months, positive symptoms of delusions, hallucinations. Negative symptoms of flat affect.

DSM-5

> "1. Two or more of the following for at least 1 month (or longer period of time), and at least one of them must be an a, b, or c:
>
> - delusions
> - hallucinations
> - disorganized speech
> - grossly disorganized or catatonic behavior
> - negative symptoms, such as diminished emotional expression
>
> a. Impairment in one of the major areas of functioning for a significant period of time since the onset of the disturbance: Work, interpersonal relations, or self-care.
>
> b. Some signs of the disorder must last for a continuous period of at least 6 months. This six-month period must include at least one month of symptoms (or less if treated) that meet criterion A (active phase symptoms) and may include periods of residual symptoms. During residual periods, only negative symptoms may be present.
>
> c. Schizoaffective disorder and bipolar or depressive disorder with psychotic features have been ruled out:
>
> No major depressive or manic episodes occurred concurrently with active phase symptoms
>
> If mood episodes (depressive or manic) have occurred during active phase symptoms, they have been present for a minority of the total duration of the active and residual phases of the illness.
>
> 1. The disturbance is not caused by the effects of a substance or another medical condition
>
> 2. If there is a history of autism spectrum disorder or a communication disorder (childhood onset), the diagnosis of schizophrenia is only made if prominent delusions or hallucinations, along with other symptoms, are present for at least one month." (American Psychiatric Association, 2013)

Case Study: Pain in the Emergency Room – For Acute Care Nurse Practitioner (ACNP) / Emergency Medicine / Urgent Care Specialties

Note: If you do not know the answer or are unsure, give it your best attempt! This activity is meant to improve and update your clinical practices. Answers to this case study will be provided after the final survey.

Part 1:

At 8:32AM, a 32-year-old African American patient presents to the emergency room with complaints of muscle and joint pain rated at 10/10. He states he has had chronic pain since childhood and has a tolerance to pain medications. He has no insurance and no EMR records on file, but has travelled to Seattle from Oregon on the Amtrak and arrived last night. He states he has been to two other ERs in Portland last week and was turned away, and has complained that his pain has not been addressed and is begging for pain medication. The only notes in the EMR are for pain management encounters in the ED this past week in Oregon. He appears to have scratch marks on his arms above his cephalic veins and is rubbing his forearms together in pain.

What questions do you have for this patient?

What is are your differential diagnoses?

Answer:

Your differential should include Sickle Cell Disease, as it is the most common genetic disease in the United States, affecting 1 in 500 African Americans. About 1 in 12 African Americans carry the autosomal recessive mutation, and approximately 300,000 infants are born with sickle cell anemia annually. The understanding of the phenotypic expression of the disease is still limited (Galadanci et al., 2019)

Up-to-Date:

> “Vaso-occlusive pain:
>
> Sickled red blood cells (RBCs) have a marked reduction in deformability as well as other effects including increased adhesion to vascular endothelial cells, inflammation, and activation of hemostatic mechanisms; all of these changes synergize to cause vascular obstruction and vaso-occlusion. Pain is one of the major consequences. Patients may have intermittent episodes of acute pain, which in some cases is accompanied by underlying chronic pain (Platt et al., 1991)
>
> Acute painful episodes — Episodes of acute pain are one of the most common types of vaso-occlusive events in SCD and are responsible for a large number of patient encounters (Bainbridge et al., 1985) (Brazovic et al., 1987). While these episodes were previously called "sickle cell crises" (and still are referred to as crises by many providers), we prefer to use the term painful episodes because not all patients are in true crisis, and pain should not be allowed to progress to the point of crisis for patients to receive appropriate analgesia including opioid analgesics if indicated.
>
> Vaso-occlusive pain in SCD is intense, although there is significant variability in the severity and frequency of acute painful episodes. The majority of pain episodes are managed by the patient at home, with up to a third of patients having pain as often as daily. Pain may be accompanied by tissue ischemia and inflammation. Many patients have specific triggers for pain such as cold, wind, low humidity, dehydration, stress, alcohol, and menses, which they develop strategies to minimize or avoid. However, the majority of painful episodes have no identifiable cause.

> Pain episodes can begin as early as six months of age and typically last throughout life. In a series of children diagnosed with SCD at birth, one-third had experienced pain by the age of one year, two-thirds by the age of two years, and over 90 percent by the age of six. The sites of pain can include the back, chest, extremities, and abdomen. In young children, dactylitis (acute pain in the hands or feet) may be the most common site of pain. Acute pain should be assessed rapidly so as not to delay analgesia" (Vichinsky, 2020)

Part 2:

Your patient was admitted to an ER bed and prescribed acetaminophen and ibuprofen. The patient's vital signs are:

BP 164/89, HR 98, RR 18, 95% O2 saturation, BMI 34, Pain 10/10. Your patient states the analgesics he was given are not strong enough to control his pain. He requests an opiate or at least gabapentin maximum strength as he has a high tolerance for pain.

What are your next actions?

Would you draw labs? If so, which labs would you draw?

Answer:

African American patients experience longer wait times in the emergency department and delayed care for Sickle Cell Disease. (Haywood et al., 2013)

> "Persons with SCD have painful vaso-occlusive crises, diffuse inflammation, chronic organ damage, and chronic pain. The 2014 National Heart, Lung, and Blood Institute expert panel report recommended opioid analgesia for severe SCD pain. However, persons with SCD are often stigmatized when seeking pain relief. A 2005 survey of 109 physicians treating patients with SCD revealed that many physicians believe that attitudes toward opioid addiction may result in undertreatment of pain and "a disbelief in patient's report of pain severity." Furthermore, a 2014 study found that nurses' beliefs about the extent of opioid abuse and addiction among patients with SCD were substantially more negative than those of physicians. Measures to manage the opioid epidemic also limit access to necessary pain relief for these patients. In 2017, the US Drug Enforcement Administration and CVS Health issued policies to reduce opioid production and limit prescriptions, with exemptions for patients with cancer or in palliative or end-of-life care but no accommodations for patients with SCD.44-47 However, in 2019, the Centers for Medicare & Medicaid Services released a final policy recommending that Medicare beneficiaries with SCD be exempt from these opioid safety restrictions. Nevertheless, because of the growing opioid epidemic, access issues remain, and state Medicaid offices should provide similar exemptions.
>
> The ED presents an additional barrier for patients with SCD, who frequently have long wait times when seeking treatment for pain. A multicenter retrospective study of EDs found that patients with SCD experiencing episodes of acute pain waited 70-75 minutes longer on average than guideline recommendations to receive analgesics. Another national survey reported that patients with SCD waited 50% longer to see an ED

> physician than did patients with long-bone fractures, despite adjusting for race and triage priority. Delays in treating persons with acute SCD pain have consequences: tissue ischemia and inflammation occur during the early prodromal phase, and aggressive pain treatment during this phase may reduce the duration of pain, prevent complications, and avert irreversible tissue damage." (Lee et al., 2019)
>
> "Themes identified included reason for admission, hospital experiences, and discharge expectations. Pain was the primary reason for admission for participants with SCD (n = 15) and for most participants with cancer (n = 10). Participants of both groups indicated that they experienced delayed treatment and a lack of communication. Participants with SCD also reported accusations of drug-seeking behavior, perceived mistreatment, and feeling of not being heard or believed. Participants from both groups verbalized concerns about well-being after discharge and hopeful expectations." (Dyal et al., 2021)

Part 3:

You order a Complete Metabolic Panel (CMP) and Complete Blood Count (CBC) and are awaiting results. Your patient is scratching their wrists, forearms, legs, and chest and is complaining of severe pain. He is yelling at the nurse that the pain is unbearable and that he needs stronger analgesics but the nurse reports that he has no signs of injury or distress. The nurse reports observing the patient sweating and noted scarring all along the cephalic vein and states "they look like needle scars"

At this time, what are your impressions?

What questions would you ask this patient?

Answer:

> "Persons with SCD have painful vaso-occlusive crises, diffuse inflammation, chronic organ damage, and chronic pain. The 2014 National Heart, Lung, and Blood Institute expert panel report recommended opioid analgesia for severe SCD pain. However, persons with SCD are often stigmatized when seeking pain relief. A 2005 survey of 109 physicians treating patients with SCD revealed that many physicians believe that attitudes toward opioid addiction may result in undertreatment of pain and "a disbelief in patient's report of pain severity." Furthermore, a 2014 study found that nurses' beliefs about the extent of opioid abuse and addiction among patients with SCD were substantially more negative than those of physicians. Measures to manage the opioid epidemic also limit access to necessary pain relief for these patients. In 2017, the US Drug Enforcement Administration and CVS Health issued policies to reduce opioid production and limit prescriptions, with exemptions for patients with cancer or in palliative or end-of-life care but no accommodations for patients with SCD. However, in 2019, the Centers for Medicare & Medicaid Services released a final policy recommending that Medicare beneficiaries with SCD be exempt from these opioid safety restrictions. Nevertheless, because of the growing opioid epidemic, access issues remain, and state Medicaid offices should provide similar exemptions.

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Part 4:

The CBC and CMP labs return normal, and hemoglobin levels are normal. Your patient states they have had this pain since childhood. In response to a nurse's question about substance use, your patient states that he's been sober for 6 months and has used heroin in the past, but only to address their chronic pain. The patient is diaphoretic and requesting pain medication.

Would you order any further tests?

Resources:

Caution for bias for suspected withdrawal symptoms vs acute vaso-occlusive pain episode. This patient states that they have experienced chronic pain since childhood, and that they have been sober for 6 months. Per patient report and presentation, you should suspect Sickle Cell Disease as a differential and address pain adequately in the Emergency room before addressing other differentials.

> "The gold standard for the assessment of pain is the patient's report. There is no combination of physical findings or laboratory tests that can be used to determine (or confirm) whether an individual with SCD is in pain. The absence of hemolysis or the stability of the hemoglobin level cannot be used to justify withholding or underdosing of pain medication. Placebo should never be used as it undermines the physician-patient relationship and lengthens the duration of pain." (Bernard et al., 2006)

Part 5:

You inquire where he has received care in the past in order to request access to his records. He states he received care in Emory University Hospital Midtown in Atlanta Georgia where he is from. As you await the records, he states that he is really trying to manage his pain and only used heroin in the past because he does not have insurance and is getting turned away at ERs for pain management.

In the interim, what questions would you ask your patient?

What are your next actions?

Answer:

Elicit a more thorough history of chronic pain experienced at childhood.

> “Sickle cell disease (SCD) is a group of inherited red blood cell disorders affecting about 1 in 500 African American children and 1 in 36,000 Hispanic American children. SCD results in anemia and "sickle cell crisis" (SCC). The main clinical feature of sickle cell disease is the "acute painful crisis,’’ which often requires hospitalization. The term "sickle cell crisis" is used to describe several acute conditions such as the vaso-occlusive crisis (acute painful crisis), aplastic crisis, splenic sequestration crisis, hyperhemolytic crisis, hepatic crisis, dactylitis, and acute chest syndrome. Other acute complications include pneumonia, meningitis, sepsis and osteomyelitis, stroke, avascular necrosis, priapism, and venous thromboembolism. This activity reviews the evaluation and treatment of sickle cell crisis and discusses the role of the interprofessional team in evaluating and treating this condition.” (Borhade & Kondamudi, 2021)

Part 6:

Your patient is insisting he needs more pain control and is visibly sweating. He is rubbing his legs and arms and appears to be in acute distress. He states he will leave Against Medical Advice (AMA) if he does not have his pain addressed. The nurse assigned to this patient confides in you that “he seems to be a frequent flyer, he could leave if he wants, this isn’t a hotel.”

His 8:32am vitals are: BP 164/89, HR 98, RR 18, 95% O2 saturation, Pain 10/10.

His 2:45pm vitals are: BP 169/93, HR 102, 97% O2 saturation, RR 18, Pain 10/10

What is your disposition?

What are your next actions?

Answer:

This patient is experiencing a Vaso occlusive crisis with acute pain. Acute painful episodes are likely to be the most common reason for individuals with sickle cell disease (SCD) to seek medical attention.

> “When a patient with SCD presents with pain, the evaluation (to characterize the pain and uncover any associated conditions) and the treatment for the pain (analgesia and other interventions) both need to occur rapidly. A major aspect of the evaluation involves distinguishing between pain due to vaso-occlusion and pain that signifies more serious complications of disease, which often require separate evaluations and treatments in addition to analgesia.
>
> Acute vaso-occlusive pain in SCD is intense; it can begin as early as six months of age and typically lasts throughout life. The intensity can range from mild to debilitating, and the duration can last from hours to days. Mothers with SCD have compared their intensity of acute pain to be more severe than pain associated with labor.

> Common locations for vaso-occlusive pain include the back, chest, abdomen, and long bones. Infants and toddlers may present with dactylitis (pain and swelling from infarctions involving the hands and feet). Premenstrual hormonal changes may be associated with an increase in vaso-occlusive pain episodes. Neuropathic pain, which may include components of central sensitization, peripheral nerve injury, and/or hyperalgesia, increases with age and is likely underdiagnosed in individuals with SCD.
>
> The gold standard for assessment of the pain is the patient's (or family's) report of the pain severity and similarity to or difference from previous vaso-occlusive pain episodes. There are no specific laboratory findings associated with vaso-occlusive pain. Analgesia should not be delayed while awaiting other information such as laboratory tests, and results of laboratory testing should not be used to justify withholding of pain medication or use of a lower dose. Studies have suggested that misperceptions of health care providers can interfere significantly with adequate assessment of pain intensity, and in turn may lead to insufficient treatment." (Zempsky, 2010)
>
> "Vaso-occlusive Crisis (VOC)
>
> Patients present with moderate to severe pain, which has variable intensity and frequency. Young children can have severe pain and swelling of both hands and feet (dactylitis). Most patients with SCD experience pain by the age of 6 years. Pain can begin from any part of the body but frequently affects the extremities and back and chest areas. Fever can accompany vaso-occlusive crisis in some patients. Although pain in patients with SCD is likely to be due to VOC, it is prudent to perform a thorough evaluation for other life-threatening causes that can be misattributed to sickle cell pain. There is no objective measure or lab test to determine the quality and severity of pain in SCD, and therefore, patient report is the only available guide." (Borhade & Kondamudi, 2021)

Part 7:

Your patient has left against medical advice at 3:30pm. At 5pm, you receive records from Emory University Hospital, records show he has a diagnosis of Sickle Cell anemia at the age of 6 years old with a history of Vaso-occlusive attacks. His note states he grew up through the foster care system with poor medical management and follow-up. Your patient does not have contact information for follow-up.

What are your next actions?

Part 8:

The next day, EMS transferred a patient found overdosed on the street after injecting heroin. EMS administered Narcan and the patient is stabilized but is experiencing cognitive impairment. This patient was identified as your patient who left AMA yesterday due to uncontrolled pain. He states he could not handle the pain and needed to manage his pain by any means necessary.

Knowing this patient's outcome, how would you manage his pain in ED today?

What actions could have changed this patient's outcome?

What barriers does this patient face when accessing care?

Answer:

> "There has been widespread speculation that patients with sickle cell disease (SCD) may become drug dependent if their painful crisis is treated with narcotics. However, there has been no scientific evidence to support this assertion. Paradoxically, individuals suffering from sickle cell disease who are not adequately treated may develop an addiction to narcotics due to self-medication to treat their pain." (Alao et al., 2003)

> "A large, US medical claims database was utilized to identify a cohort of 3882 SCD patients, and characteristics of opioid use were analyzed. Only 40% SCD patients were on opioid analgesics during a 12-month span. However, a non-trivial number of patients used a much higher dose of opioids despite a relatively low average daily opioid dose among SCD patients, particularly with Vaso-occlusive complications." (Han et al., 2018)

Furthermore, a pain management plan should have been established for this patient.

End of module:

If this patient was discharged with a plan, what long-term treatment would you prescribe to reduce painful episodes in Sickle Cell Disease?

Answer:

> "Hydroxyurea and other disease-modifying agents — The use of hydroxyurea is a mainstay in the overall management of individuals with SCD, since it reduces the incidence of acute vaso-occlusive pain episodes and other vaso-occlusive events including acute chest syndrome and in some cases stroke; decreases hospitalization rates; and prolongs survival. Hydroxyurea can be administered at any age, from 6-month-old infants to adults, in any region of the world. It is discontinued 3 months before attempted conception and during pregnancy. Benefits are greatest in individuals with HbSS or HbS/beta0-thalassemia genotypes." (Ware, 2010)

> "Improved survival — Evidence that hydroxyurea improves survival in SCD comes from the following observational studies:

> ●A 2010 observational study reported the long-term outcomes of 299 individuals with SCD who were originally enrolled in a randomized trial (the Multicenter Study of Hydroxyurea in Sickle Cell Anemia [MSH] trial, described in greater detail below) comparing hydroxyurea with placebo and were subsequently followed for over 17 years (Steinberg et al., 2003) (Steinberg et al., 2010). Many assigned to placebo had subsequently switched to hydroxyurea after the short-term benefits of hydroxyurea had become apparent. Most of the participants were between 20 and 30 years of age at the time of initial study entry, and only individuals with Hb SS and at least three painful

episodes per year were included. The majority of deaths occurred in individuals who were never exposed to hydroxyurea or who had <5 years of exposure. When evaluated according to length of hydroxyurea exposure in five-year increments, death rates per 100 person-years were as follows:

•Never exposed – 5 deaths per 100 person-years

•<5 years exposure – 6.8 deaths

•5 to 10 years – 4.4 deaths

•10 to 15 years – 1.8 deaths

•≥15 years – 0 deaths

●A 2010 prospective nonrandomized study involving 131 Greek adults with SCD (all genotypes) followed for five to eight years found that mortality was lower in hydroxyurea-treated individuals compared with controls (10 versus 25 percent) (Voskaridou et al., 2010). The survival benefit was preserved across multiple SCD genotypes (homozygous Hb SS, Hb S beta0 thalassemia, and Hb S beta+ thalassemia).

●A 2013 retrospective study involving 267 Brazilian children with SCD (ages 3 to 18 years, all genotypes) treated with hydroxyurea for a median of two years found that the hydroxyurea-treated children had lower mortality compared with controls (0.5 versus 5.5 percent [95% CI 0.92-0.99]) (Lobo et al., 2013)"

Case Study: Pressure Ulcer Staging – For Adult Gerontological Nurse Practitioner (AGNP) / Gerontological Specialties

Note: If you do not know the answer or are unsure, give it your best attempt! This activity is meant to improve and update your clinical practices. Answers to this case study will be provided after the final survey.

Part 1:

You are an attending provider on a geriatric spinal-cord injury unit. You are conducting skin assessments on your patients who have complete paralysis due to increased risk for pressure injuries and other skin conditions. You understand that the National Pressure Injury Advisory Panel (NPIAP) is the gold standard for staging pressure ulcers.

Describe the appearance of the following stages of pressure ulcers:

Stage 1:

Stage 2:

Stage 3:

Stage 4:

Unstageable:

Deep tissue pressure injury:

Answer:

"Pressure Injury:

A pressure injury is localized damage to the skin and underlying soft tissue usually over a bony prominence or related to a medical or other device. The injury can present as intact skin or an open ulcer and may be painful. The injury occurs as a result of intense and/or prolonged pressure or pressure in combination with shear. The tolerance of soft tissue for pressure and shear may also be affected by microclimate, nutrition, perfusion, co-morbidities and condition of the soft tissue.

Stage 1 Pressure Injury: Non-blanchable erythema of intact skin Intact skin with a localized area of non-blanchable erythema, which may appear differently in darkly pigmented skin. Presence of blanchable erythema or changes in sensation, temperature, or firmness may precede visual changes. Color changes do not include purple or maroon discoloration; these may indicate deep tissue pressure injury.

Stage 2 Pressure Injury: Partial-thickness skin loss with exposed dermis Partial-thickness loss of skin with exposed dermis. The wound bed is viable, pink or red, moist, and may also present as an intact or ruptured serum-filled blister. Adipose (fat) is not visible and deeper tissues are not visible. Granulation tissue, slough and eschar are not present. These injuries commonly result from adverse microclimate and shear in the skin over the pelvis and shear in the heel. This stage should not be used to describe moisture associated skin damage (MASD) including incontinence associated dermatitis (IAD), intertriginous dermatitis (ITD), medical adhesive related skin injury (MARSI), or traumatic wounds (skin tears, burns, abrasions).

Stage 3 Pressure Injury: Full-thickness skin loss Full-thickness loss of skin, in which adipose (fat) is visible in the ulcer and granulation tissue and epibole (rolled wound edges) are often present. Slough and/or eschar may be visible. The depth of tissue damage varies by anatomical location; areas of significant adiposity can develop deep wounds. Undermining and tunneling may occur. Fascia, muscle, tendon, ligament, cartilage and/or bone are not exposed. If slough or eschar obscures the extent of tissue loss this is an Unstageable Pressure Injury.

Stage 4 Pressure Injury: Full-thickness skin and tissue loss Full-thickness skin and tissue loss with exposed or directly palpable fascia, muscle, tendon, ligament, cartilage or bone in the ulcer. Slough and/or eschar may be visible. Epibole (rolled edges), undermining and/or tunneling often occur. Depth varies by anatomical location. If slough or eschar obscures the extent of tissue loss this is an Unstageable Pressure Injury.

Unstageable Pressure Injury: Obscured full-thickness skin and tissue loss Full-thickness skin and tissue loss in which the extent of tissue damage within the ulcer cannot be confirmed because it is obscured by slough or eschar. If slough or eschar is removed, a

> Stage 3 or Stage 4 pressure injury will be revealed. Stable eschar (i.e. dry, adherent, intact without erythema or fluctuance) on the heel or ischemic limb should not be softened or removed.
>
> Deep Tissue Pressure Injury: Persistent non-blanchable deep red, maroon or purple discoloration Intact or non-intact skin with localized area of persistent non-blanchable deep red, maroon, purple discoloration or epidermal separation revealing a dark wound bed or blood filled blister. Pain and temperature change often precede skin color changes. Discoloration may appear differently in darkly pigmented skin. This injury results from intense and/or prolonged pressure and shear forces at the bone-muscle interface. The wound may evolve rapidly to reveal the actual extent of tissue injury, or may resolve without tissue loss. If necrotic tissue, subcutaneous tissue, granulation tissue, fascia, muscle or other underlying structures are visible, this indicates a full thickness pressure injury (Unstageable, Stage 3 or Stage 4). Do not use DTPI to describe vascular, traumatic, neuropathic, or dermatologic conditions.
>
> Additional pressure injury definitions.
>
> Medical Device Related Pressure Injury: This describes an etiology. Medical device related pressure injuries result from the use of devices designed and applied for diagnostic or therapeutic purposes. The resultant pressure injury generally conforms to the pattern or shape of the device. The injury should be staged using the staging system.
>
> Mucosal Membrane Pressure Injury: Mucosal membrane pressure injury is found on mucous membranes with a history of a medical device in use at the location of the injury. Due to the anatomy of the tissue these ulcers cannot be staged." (Edsberg et al., 2016)

Part 2:

You are rounding on your patients. You visit your first patient, a 67-year-old White male admitted two months ago. You observe the area of skin above the sacrum and notice a 4cm by 3cm non-blanchable redness. You feel this area with the back of your hand and sense it is warmer than the surrounding blanchable skin.

What are your impressions?

If stageable, what stage would this be?

Answer:

Based on presentation and NPIAP definition: Stage 1 pressure ulcer.

Part 3:

You are rounding on your patients. You visit your second patient, a 55-year-old African American male admitted three months ago. You observe the area of skin above the sacrum and notice a 3cm by 2cm area of skin that appears darker than the surrounding area and feels warm to the touch. There are no lesions, and you are unable to test if the area is blanchable.

What are your impressions?

If stageable, what stage would this be?

Answer:

Considering the area above the sacrum pressure point in a dark pigmented patient and their immobility, you should be highly suspicious of a Stage 1 pressure ulcer.

"Recommendations for assessing dark pigmented skin

- The color of intact dark pigmented skin may remain unchanged (does not blanch) when pressure is applied over a bony prominence.
- Localized skin color changes can occur where pressure is applied. These changes may differ from the individual's usual skin color.
- Local areas of intact skin subject to pressure may feel either warm or cool when touched. This assessment should be performed without gloves to make it easier to distinguish differences in temperature. It is important to clean the skin of any body fluids before this direct contact.
- If patients have had a previous pressure ulcer, the healed area may be lighter in color.
- Areas of skin subjected to pressure may be purplish/bluish/violet in color. This can be compared with the erythema seen in people with lighter skin tones.
- Oedema may occur with an induration (area of skin hardness) more than 15mm in diameter. The skin may be taut and shiny.
- Patients may complain of or indicate current or recent pain or discomfort at body sites where pressure has been applied." (Bennett, 1995)

Part 4:

You are rounding on your patients. You visit your third patient, a 45-year-old Latino male with dark pigmented skin admitted three months ago. You observe the skin and find patches of thick dry skin on the back of the head, above the sacrum, and the heels. There are no lesions, and you are unable to test if the skin is blanchable due to dark pigmentation.

Is thick skin an NPIAP indicator for injury?

What are your impressions?

Answer:

Stage 1 pressure ulcer.

"Recommendations for assessing dark pigmented skin

- The color of intact dark pigmented skin may remain unchanged (does not blanch) when pressure is applied over a bony prominence.
- Localized skin color changes can occur where pressure is applied. These changes may differ from the individual's usual skin color.

- Local areas of intact skin subject to pressure may feel either warm or cool when touched. This assessment should be performed without gloves to make it easier to distinguish differences in temperature. It is important to clean the skin of any body fluids before this direct contact.
- If patients have had a previous pressure ulcer, the healed area may be lighter in color.
- Areas of skin subjected to pressure may be purplish/bluish/violet in color. This can be compared with the erythema seen in people with lighter skin tones.
- Oedema may occur with an induration (area of skin hardness) more than 15mm in diameter. The skin may be taut and shiny.
- Patients may complain of or indicate current or recent pain or discomfort at body sites where pressure has been applied." (Bennett, 1995)

Part 5:

When assessing a patient with darkly pigmented skin on this unit, are there factors that would cause you to have a higher index of suspicion for pressure injuries? What are these factors?

Answer:

> "Skin: The development of visible signs of pressure and shear in the skin is delayed. Events leading to pressure can occur 48 hours prior to the visible changes of deep-tissue pressure injury and hours before visible changes seen with stage/category 1 pressure ulcer/injury develops. However, in patients with darkly pigmented skin, the early signs of skin colour change are blunted by the pigment in the skin. Obtain a thorough history of exposure to pressure, such as being found prior to admission, or being in surgery for over 3 hours in a supine position or a shorter timeframe in prone positions. A history of exposure to pressure is an excellent historical event to know and record. The exposure to high-intensity pressure or prolonged pressure provides the clinician a high index of suspicion that pressure injury may be evolving." (Black & Simende, 2020)

Part 6:

Difficulties assessing dark pigmented skin arise when staging pressure ulcers. There is a lack of research, visual guides, and resources in place to broadly update guidelines to include dark pigmented skin.

What pressure injury presentations differ from White skin? What methods could you use to assess and stage darkly pigmented skin?

Answer:

> "Use good lighting to see the skin: Place the patient in a position so that natural light is shining on the skin. If you cannot do that, use a pen light or light on your phone to see the skin. Fluorescent light casts a blue tone on darkly pigmented skin and should be avoided.

Compare the colour of skin subjected to pressure to the skin around the area: Pigmentation is the most obvious difference in skin characteristics between different racial groups. Describe variations in skin colour using an objective system: The National Pressure Injury Advisory Panel (NPIAP) et al's 2019 pressure injury prevention and treatment guidelines (NPIAP et al, 2019) recommend that objective assessment of the skin includes the use of a colour chart rather than an ethnic label, such as African American. There are two methods to do this: one is the Munsell skin tone chart and other is the 6 Fitzpatrick skin types (Konishi et al, 2007).

Ehance your visual assessment by moistening the skin: Darkly pigmented skin is often thicker and drier than lightly coloured skin. The skin may appear ashen. The thickness of the skin is proportional to the degree of pigmentation (Sandby-Moller et al, 2003; Vashi et al, 2014). Black skin also has the highest sebum content of all ethnicities, but has the lowest ceramide level, and is thus the most susceptible to transepidermal water loss and xerosis of any ethnic group. This physiological change makes the skin dry and at times scaly or ashen. Moistening the skin with tap water will rehydrate the epidermis to improve inspection.

Palpate the skin in areas that may have been exposed to pressure or shear: Pressure injury in the skin and soft tissue creates oedema from the inflammatory response. The oedema is palpable as hardness or coolness in the tissues. To get the best assessment, use the back of your hand and remove your gloves to feel a change in skin temperature (Steven et al, 2015).

Appreciate variation in presentation of deep tissue pressure injury : Deep tissue pressure injury (DTPI) does not always appear purple or maroon in patients with darkly pigmented skin.

Consider enhancing your assessment of darkly pigmented skin with technology designed to assess perfusion or subepidermal moisture changes: NPIAP et al's pressure injury prevention and treatment guidelines (NPIAP et al, 2019) recommend that when assessing darkly pigmented skin, skin temperature and sub-epidermal moisture are important adjunct assessment strategies. Impaired perfusion causes tissue to feel cool; however, pure tactile measurement of skin temperature can vary. Thermographic measurement of skin perfusion can provide more objective data (Sprigle et al, 2009; Black, 2018)."

End of module:

You are reviewing the pressure injury statistics on your unit for the past month and notice that African American patients have a higher rate of stage 2 pressure injuries than White patients.

In reflection, why might this be the case?

Answer:

There is limited research and educational material for dermatological conditions in darkly pigmented patients. This is evident in nursing and medical school text books. The lack of familiarity of skin conditions presented in dark pigmented patients contributes to the delayed

identification of stage 1 pressure ulcers, leading to delayed care and a higher rate of stage 2 pressure ulcers in darkly pigmented patients.

> "Overall pressure ulcer rates decreased over 5 years but black residents showed persistently higher rates than White residents: 16.8% (95% confidence interval [CI] 16.6-17.0%) vs 11.4% (95% CI 11.3-11.5%) in 2003, and 14.6% (95% CI 14.4-14.8%) vs 9.6% (95% CI 9.5-9.7%) in 2008 ($p>0.05$ for trend of disparities). Both black (unadjusted rate 15.5% in 2008; adjusted odds ratio [OR]=1.59, 95% confidence interval [CI] 1.52-1.67) and White (unadjusted rate 12.1%; adjusted OR=1.33, 95% CI 1.26-1.40) residents in nursing homes with the highest concentrations of black residents (≥35%) showed higher risk of pressure ulcers than White residents (unadjusted rate 8.8%) in nursing homes serving essentially White residents (black residents<5%)." (Li, 2011)

Appendix E: Post-Survey Questions

Post-Survey Questions

The following are a series of Likert survey questions where you will be given a statement and asked to choose if you strongly agree, agree, neither agree or disagree, disagree, or strongly disagree. This survey will also include short answer questions for context.

I am familiar with Public Health Critical Race Praxis and its principles

Public Health Critical Race Praxis belongs in health education curriculum

Racism exists in teaching and learning about health at the university level

Racism impacts clinical decisions

Implicit bias impacts clinical decisions

Racism is a significant issue in healthcare

Race is a biological category

Patients have differing organ functions and lab normal values according to their race

Biologically, African American patients can tolerate pain more than White patients

Biologically, Native American patients can tolerate pain more than White patients

I will incorporate Public Health Critical Race Praxis in my course materials

I encourage others to incorporate Public Health Critical Race Praxis in their course materials

Short answer questions. To the best of your ability, please answer the below short answer questions in a few sentences or less. If you do not know the answer, simply write "I don't know" or give it your best attempt.

In a few sentences, define race.

In a few sentences, define racism.

In a few sentences, please define Public Health Critical Race Praxis.

In a few sentences, explain the role Public Health Critical Race Praxis plays in healthcare academia.

If any, what benefits does Public Health Critical Race Praxis bring to healthcare education?

If any, what disadvantages does Public Health Critical Race Praxis bring to healthcare education?

Appendix F: Last Page of Online Module

Thank you for participating in "A Public Health Critical Race Praxis Approach to Antiracism in Nursing Academia"

Please download the following syllabus checklist to use as a tool for updating your course materials to reflect the mission and vision statement of Seattle University.

Please consider listening to the Praxis by Dr. Edwin Lindo on Spotify to have a deeper understanding of PHCRP, and consider assigning the podcast series as learning material in your future courses:

> Hosted by Edwin Lindo, JD. University of Washington School of Medicine Lecturer in the Department of Family Medicine and UW Center for Leadership and Innovation in Medical Education (CLIME) Associate Director, Critical Teaching and Equity. This podcast aims to directly address and explore the effects of racism, and other forms of marginalization so that we can collectively achieve health justice. We will journey through history theory, science & medicine, by embracing storytelling, interviews and community expertise.
>
> https://open.spotify.com/show/2W76jdy08nd4iFx6ge5D1B

Please consider adopting PHCRP into your curriculum to reflect the most up-to-date clinical practice research to reduce patient harm and bring us towards a more equitable patient experience.

Finally, the Washington State Legislature has passed RCW 43.70.613 into law. This law, titled "Health care professionals—Health equity continuing education." Has mandated that:

> "(1) By January 1, 2024, the rule-making authority for each health profession licensed under Title 18 RCW subject to continuing education requirements must adopt rules requiring a licensee to complete health equity continuing education training at least once every four years."
>
> https://app.leg.wa.gov/rcw/default.aspx?cite=43.70.613

These case study modules may be adapted to satisfy the requirements of this mandate with future coordinate with Seattle University.

End of Case Study - Thank you for participating in "A Public Health Critical Race Praxis Approach to Antiracism in Nursing Academia"

Please download the following syllabus checklist to use as a tool for updating your course materials to reflect the mission and vision statement of Seattle University: https://drive.google.com/file/d/1Id08dxdELkXE35E0bWBnyO2poZae9i6f/view?usp=sharing

Please consider listening to the Praxis by Dr. Edwin Lindo on Spotify to have a deeper

understanding of PHCRP, and consider assigning the podcast series as learning material in your future courses:

> Hosted by Edwin Lindo, JD. University of Washington School of Medicine Lecturer in the Department of Family Medicine and UW Center for Leadership and Innovation in Medical Education (CLIME) Associate Director, Critical Teaching and Equity. This podcast aims to directly address and explore the effects of racism, and other forms of marginalization so that we can collectively achieve health justice. We will journey through history theory, science & medicine, by embracing storytelling, interviews and community expertise.
> https://open.spotify.com/show/2W76jdy08nd4iFx6ge5D1B

Please consider adopting PHCRP into your curriculum to reflect the most up-to-date clinical practice research to reduce patient harm and bring us towards a more equitable patient experience.

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> https://app.leg.wa.gov/billsummary?BillNumber=5044&Year=2021&Initiative=false

These case study modules may be adapted to satisfy the requirements of this mandate with future coordinate with Seattle University.

Appendix G: T-Test: Paired Two Sample for Means

T-Test: Paired Two Sample for Means

	Post-test	*Pre-test*
Mean	53.8	52.6
Variance	13.7	17.3
Observations	5	5
Pearson Correlation	0.91912188	
Hypothesized Mean Difference	0	
df	4	
t Stat	1.63299316	
P(T<=t) one-tail	0.0889039	
t Critical one-tail	2.13184679	
P(T<=t) two-tail	0.17780781	
t Critical two-tail	2.77644511	

Mean difference	1.2
Stand deviation of difference	1.64317
Standard error of difference	0.73485
T alpha half 95% confidence interval	2.13185
Lower confidence level	-0.3666
Upper confidence level	2.76658