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Increasing Awareness of Implicit Bias and Systemic Racism Among Clinical Staff Caring for non-Hispanic Black Maternal Patients

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By

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Abstract

Background: Kentucky is ranked 17th in the nation for the highest maternal mortality rate in the U.S. with a rate of 22.9 per 100,000, and 78 percent of those maternal deaths were considered preventable. The Non-Hispanic Black maternal death rate in the U.S. and Kentucky is 2.9 times higher than that of the Non-Hispanic White maternal counterparts (Kentucky Department of Public Health Division of Maternal and Child Health (KDPHDMCH), 2022). The fundamental cause of maternal health inequities is structural racism, which leads to poor treatment and experiences in the healthcare system (Chinn et al., 2020). Structural racism and implicit biases are the leading contributors to the Black maternal mortality rate (CDC, 2023). Evidence reveals that healthcare professionals "exhibit the same levels of implicit racial and ethnic biases as the general population" (FitzGerald & Hurst, 2017, p. 1). Healthcare providers' implicit racial and ethnic biases negatively impact patient-provider relationships, which leads to minimal patient treatment adherence and results in poor health outcomes (Hall et al., 2015).

Purpose: The purpose of this pilot study was to determine if an educational program focusing on increasing awareness of implicit bias and systemic racism for all clinical staff would increase their cultural competency.

Methods: This quasi-experimental study utilized a single clinical staff group at University of Kentucky Women's Health – Georgetown (UKWH-G). The participants took a pre-test to assess their knowledge and attitudes before the educational program, followed by a post-test to assess these same elements after education. Also, a program evaluation was completed to analyze the appropriateness of continuing the program as a mandatory annual in-service for all clinical staff.

Results: There was no statistically significant (p=.77) difference in the educational level of the participants regarding implicit bias and systemic racism before and after the educational

program. However, 88.9% of the participants reported as follows: They learned more than they knew about implicit bias and systemic racism; what they learned would impact their daily patient care delivery; they would recommend their colleagues to participate in this educational program.

Discussion: Although there was determined to be a display of basic knowledge about implicit bias and systemic racism before the educational program, there were enough important gaps in the participant's knowledge to justify the need for the educational program. Those gaps in knowledge were identified as resolved following the educational program.

Conclusion: The majority of the study participants acknowledged due to this educational program they would make changes to the delivery of their patient care to non-Hispanic Black patients. This increased cultural competence of the clinical staff will presumably result in a more positive patient care experience for the non-Hispanic Black maternal patients with predicted improved health outcomes.

Acknowledgments

I would like to acknowledge my academic advisor, Dr. Julie Marfell for her encouraging words, sharing her knowledge/feedback, availability for all of my questions, and guidance through this project. My clinical mentor, Hartley Feld, Ph.D., MSN, Assistant Professor, was instrumental in assisting me with developing my project and providing me with many ideas for resources as well as assisting me with my clinical hours. My DNP committee member, Mikayla Hare, DNP, APRN, FNP-BC, was always willing daily to assist me with developing my project and readily offered much-needed reassurance. Also, my DNP committee member, Dr. Coy Flowers, was very supportive of my project and key as the Medical Director of UKWH-G in allowing me to perform the pilot study at the clinic.

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The author recognizes the use of maternal-centered language in this document which is not meant to define any role or exclude any childbearing person.

Dedications

My career as a Certified Nurse-Midwife has led me to bear witness to the negative impacts of implicit biases and racism on maternal healthcare. Daily in my clinical practice, my goal is to be part of making a difference towards positive patient care outcomes by trying to make sure each patient feels seen and heard. This project was developed as part of my academic pursuits in hopes of being impactful on a broader scale to chisel away at implicit biases and racism negatively impacting maternal healthcare outcomes. First, I would like to dedicate this project to the non-Hispanic Black maternal patients in openly acknowledging they deserve to be seen and heard in their healthcare. Please know, there are those in healthcare working to better care for you. Collectively, clinical staff enter the healthcare profession due to caring for and wanting to serve patients; therefore, I am optimistic that change towards whatever it takes for the betterment of patient care is the goal of most of us in the profession. However, change will only occur if the problem of longstanding systemic racism in healthcare is fully understood through education and raising awareness which begins with projects such as this.

Also, I would like to dedicate this project to my children. In my pursuits of education and career, there is always the mom's guilt for taking time away from them over the years. Hopefully, they are inspired by my work to pursue something they thought they might not be able to do and inspired to find what makes them happy in life. Lastly, I would like to dedicate this project to my late dad. I have deeply missed his support during this pursuit. This project gave me focus and purpose despite my immeasurable grief after his recent passing. Although I am sad he is not here to share in this accomplishment, I know he would be proud of me for persevering and is certainly with me in spirit.

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Background and Significance

According to the CDC (2022), maternal mortality is at an epidemic level. The U.S. spends far more healthcare dollars on maternity care than any other developed country, but the outcomes fall short of improving the care provided to maternal patients (Eggen et al., 2022). The most recent U.S. maternal mortality rate in 2020 was 23.8 per 100,000 (CDC). Globally, the closest maternal mortality rate of any developed country compared to the U.S. is New Zealand with a much lower rate of 13.6 per 100,000. The majority of other developed countries are reporting even lower maternal mortality rates of 8 per 100,000 (Gunja et al., 2022).

Another concerning finding is the non-Hispanic Black maternal death rate, which is 2.9 times higher than that of non-Hispanic White maternal counterparts throughout the U.S. (CDC, 2022). The non-Hispanic Black maternal death rate in Kentucky is also 2.9 times higher than that of the non-Hispanic White maternal counterparts (Kentucky Department of Public Health Division of Maternal and Child Health [KDPHDMCH], 2022). Notably, the non-Hispanic Black population makes up only 8.5% of the entire U.S. population and that percentage is the same in Kentucky (U.S. Census, 2020). Kentucky is ranked 17th in the nation for highest maternal mortality rates in the U.S. with a rate of 22.9 per 100,000. After the evaluation of the maternal mortality rate, 78% of maternal deaths were preventable in Kentucky and 60% were considered preventable in the U.S. (KDPHDMCH, 2022). As recently portrayed in the documentary *Aftershock* (Eiselt & Lee, 2022), a single maternal death reverberates and has an extended, immeasurable negative impact on the lives of the mother's children, husbands, partners, family members, and friends.

The fundamental cause of maternal health inequities is structural racism, which leads to poor treatment and experiences in the healthcare system (Chinn et al., 2020). Structural racism

and implicit biases are leading contributors to the Black maternal mortality rate (CDC, 2023). Evidence reveals that healthcare professionals "exhibit the same levels of implicit biases as the general population" (FitzGerald & Hurst, 2017, p. 1). Healthcare providers' implicit racial and ethnic biases negatively impact patient-provider relationships, which leads to minimal patient treatment adherence resulting in poor health outcomes (Hall et al., 2015). Also, there is evidence to suggest that diagnosing a patient and the treatment options provided are influenced by implicit biases, which results in marginalized populations experiencing poor patient-provider communication, trauma, and inadequate prenatal and postpartum care (Chinn et al., 2020).

The World Population Review (2022) reveals that California has improved its maternal mortality rate since 2006 from 16.9 per 100,000 to 4 per 100,000 today. The strategy implemented by California Maternal Quality Care Collaborative (CMQCC) (2022) has been to recognize the two major obstetrical emergencies (post-partum hemorrhage and pre-eclampsia), which are the most frequent contributors to maternal death. The CMQCC has developed education programs to enable clinical staff to recognize emergencies quickly. Also, the CMQCC developed protocols with step-by-step interventions for staff to follow to prevent maternal deaths.

Furthermore, the California Legislature (2022) voted into law that state-funded insurance or California Medicaid (2022) be extended for 12 months post-partum. Maternal mortality rate is calculated by most entities to include the 12-month post-partum period, and the importance of continued healthcare access for maternal patients for this period is understood. As such, Governor Beshear signed SB 178 on April 22, 2022, titled an Act of Health and Welfare Declaring an Emergency which extends Kentucky Medicaid coverage through 12 months post-partum (Kentucky Legislature, 2022). Lastly, CMQCC recognized the need for implicit bias and

birth equity training as an integral part of positively impacting maternal care and reducing maternal mortality rates. The success of these strategies is evidenced by having the lowest maternal mortality rate in the U.S. and a much lower maternal mortality rate compared to most developed nations (Gunja et al, 2022).

Purpose

The CMQCC developed several effective strategies; however, this project was in congruence with the strategy to provide implicit bias and birth equity training. An educational program is needed for all clinical staff that goes beyond implicit bias training to include anti-racism training (Black Mamas Matter Alliance, 2022). This educational program focused on both implicit bias and systemic racism which could serve to combat the maternal mortality rates for non-Hispanic Black maternal patients. This education program was initiated as a pilot study at the University of Kentucky Women's Health – Georgetown (UKWH-G) for all clinical staff which included physicians, nurse practitioners, registered nurses, and certified medical assistants. Participants received education to increase knowledge concerning implicit bias and systemic racism. Also, participants were educated on how to be conscious of attitude, behaviors, and word choice, and to be aware of how care is delivered, particularly to the non-Hispanic Black maternal patients.

Objectives

1. Engage interprofessional stakeholders such as department chairs, medical directors, office managers, human resources, the education department, providers (M.D.s, and APRNs), and key clinical staff members for input in the shared development of objectives and content for the education program.

2. Develop the educational program to include historical content of implicit bias and systemic racism for a better understanding from the participants of why there is continued mistrust in healthcare.

3. Create the educational intervention to deliver comprehensive content about implicit bias and systemic racism to increase clinical staff cultural competence.

4. Complete the pilot study at UKWH-G (pre-test to assess knowledge and attitudes, teaching intervention, post-test to assess knowledge and attitudes, post-education evaluation).

5. Analyze outcomes from the pilot study and make modifications as needed to the education program based on feedback (test scores and program evaluation).

6. Report the shared value of the education program to the institution with the goal of merging content into ongoing mandatory annual staff in-services.

7. Submit the finalized education program to the institution's education department for scaling across the institution.

Review of Literature

Search Strategies

The researcher utilized two search engines, including Cumulative Index to Nursing and Allied Health Literature (CINAHL) and PubMed. The evidence-based research data were limited to full-text searches and peer-reviewed articles. The keywords used were maternal mortality solutions, maternal mortality, nurse education program, education program, implicit bias, implicit bias training, anti-racism, and anti-racism training. The search criteria initially excluded studies in which maternal mortality was not included in the results, but this yielded zero studies. The most productive search utilized the keywords implicit bias AND anti-racism

AND education program resulting in eight studies. Three of those were deemed relevant and included in this review.

Synthesis

The available evidence suggests a need for a significant paradigm shift to include an anti-racist perspective in healthcare education, research, and practice. A recent systematic review revealed a lack of effective methods to address racism and implicit bias in healthcare workers (Ricks et al., 2022). There is a further limitation in that only 11 studies were available that met their criteria for review within the designated period of 2020 (Ricks et al., 2022).

Nevertheless, available evidence does suggest that training on systemic racism and implicit bias can raise awareness and empower individuals to address these issues. For example, in the United Kingdom, a research team administered a training program to 67 midwives to determine whether implicit bias and structural racism training were impactful in the resulting care of babies from Black, Asian, and other minority ethnic groups. Through pre and post-survey, the authors determined the program was impactful at raising awareness among the midwives about possible implicit bias and racism in their care, and 98% of the midwife participants completing the program stated that they planned to change their practice because of the training (Chubb et al., 2022). The final study was initiated by a call to action for institutions of higher learning to acknowledge that systemic racism and implicit bias are direct contributors to the maternal and infant mortality rate and nurse education needs to be rethought. In this study, 33 faculty were educated in a program called SPEAK UP Against Racism with 100 percent of the participants surveyed agreeing that the program helped give them tools to speak up if they saw racism occurring (Reed et al., 2022).

Overall Strength of Evidence

There is strong evidence and agreement between Ricks et al. (2021), Chubb et al. (2022), and Reed et al. (2022) that educational programs can raise awareness of systemic racism and implicit biases resulting in empowering participants to address these issues. There is also evidence to support that the healthcare of individuals is negatively impacted by systemic racism and implicit bias. The gap in the evidence is specific studies addressing the direct impact of systemic racism and implicit biases resulting in maternal mortality.

Need for Practice Change

According to Russell (2021), healthcare providers should receive implicit bias and anti-racism education initially with their training and then annually at the facilities where they are practicing. The need is not just for providers, but for all clinical staff to receive an initial comprehensive implicit bias and anti-racism education program followed by an annual re-education requirement. Programs such as SPEAK UP are identifying what to do if racism or implicit bias is witnessed (Reed et al., 2022). However, SPEAK UP does not address the individual's own implicit biases and racist attitudes to encourage self-reflection and growth. The educational program proposed will evaluate the attendees for implicit bias and racism by educating them about unconscious biases and self-reflection followed by guidance on overcoming personal biases and systemic racism. These will be steps to meet the gap by offering a viable solution to address implicit bias and systemic racism in healthcare.

Theoretical/Conceptual Framework or Model

According to White and Spruce (2015), the Iowa Model is commonly utilized in healthcare organizations and academic organizations. This model is described as a model easily understood by nurses, which should theoretically translate to being an easily understood model

for other clinical staff as well. The first step in the model is to identify a problem (White & Spruce, 2015). The problem was identified at the UKWH-G clinic, with multiple acts of implicit bias and racism witnessed by clinical staff. These acts were identified as having made the other clinical staff members very uncomfortable, and in one instance, resulted in a poor health outcome for a non-Hispanic Black maternal patient. The clinical staff expressed a lack of knowledge on how to appropriately address the negative behaviors with other clinical staff members.

The next step was to identify a team to address the problem (White & Spruce, 2015). The team identified at UKWH-G consisted of a nurse-midwife, a registered nurse, and a certified medical assistant. The team discussed how the situation could be effectively addressed to avoid recurrence. The team determined that there is minimal research on the topic of systemic racism and implicit bias among clinical staff, and few ready-made programs are available to address the issue. Therefore, they identified the need for a pilot study to begin making changes based on evidence-based practice (White & Spruce, 2015). If the change were considered effective and appropriate, it would then be implemented into the daily practice at the clinic. The plan would then be to continue to evaluate outcomes and disseminate results. If the pilot study were deemed successful, the next step would be to extend the program to all clinical staff within the entire institution of University of Kentucky (UK) HealthCare.

Methods

Design

The project employed a quasi-experimental study with a single group comprised of all the clinical staff at UKWH-G. The pilot study was used to evaluate the effectiveness of the educational intervention before administering it on a broader scale. The pre-test evaluated

participants' knowledge and attitudes concerning implicit bias and systemic racism before the educational program that was designed to increase their cultural competency. Following the educational program, the post-test evaluated for increased cultural competency. A post-education evaluation was also completed by the participants to obtain their opinions on the effectiveness of the educational program.

Setting

Agency Description

This pilot study was conducted at UKWH-G. This is an outlying community-based women's health clinic offering obstetrics, midwifery, and gynecological care located in Georgetown, Kentucky, and owned and operated by UK HealthCare.

Congruence of Project

The mission, goals, and values of UK HealthCare are congruent with this pilot study. This congruency is evidenced by the mission and values of the organization "Living DIReCT" by practicing values of "Diversity, Innovation, Respect, Compassion, and Teamwork" (UK HealthCare, 2023), which aligns with this project's goals to increase awareness of implicit bias and systemic racism and improve clinical staff's cultural competency. The goal specific to the UKWH-G is to provide expert care to help all patients have the healthiest pregnancy and delivery possible and meet their complete women's health needs (UK HealthCare Obstetrics & Gynecology, 2023). This UKWH-G goal is also congruent with this pilot study by striving to meet all patients' complete women's health needs, which would include striving to increase the clinical staff's cultural competency to better care for non-Hispanic Black maternal patients.

Description of Stakeholders

Foremost, it was important to engage interprofessional stakeholders such as the clinic's medical director, office manager, providers (two M.D.s, one APRN), and key clinical staff members for input in the shared development of objectives and content for this educational program. The support of the medical director of UKWH-G was imperative to allow for the pilot study to occur at this location, to approve the time allotment for the clinical staff to participate in the project, and to encourage the participation of all clinical staff. The office manager agreed to use her time allotment for a weekly staff meeting for the educational portion of the pilot study. The providers were engaged to not only participate in the pilot study but also act as advocates for the educational program to encourage buy-in from other clinical staff. Key clinical staff that act as the natural team leaders of the group acted as advocates for participation in the pilot study as well.

Since the pilot study is considered successful, the plan is for the results to be reported to the department chairs, medical directors, education department, and human resources the shared value of the education program to the institution with the goal to merge content into ongoing mandatory annual staff in-services. Lastly, the finalized education program will be submitted to the institution's education department for scaling across the institution.

Site-specific Facilitators and Barriers to Implementation

One site-specific facilitator was the availability of a large conference room at the UKWH-G clinic with a large table and chairs to accommodate all of the staff; this enabled the clinical staff to come together in the same physical space for the educational program. Another site-specific facilitator was the fact that UKWH-G clinic is fully staffed and functioning without staffing issues.

A barrier to this site was allotting time for the clinical staff to attend the educational program and occur at the least impactful time away from patient care. Also, this is an OB clinic, and there was no way to anticipate when births may occur. The final barrier was that this was not a typical research facility, and the clinical staff were not accustomed to incorporating research into their daily schedule.

Sample

The participants were all clinical staff caring for non-Hispanic Black maternal patients at UKWH-G. There were 10 participants in the study which included all providers (two MDs and one APRN), two registered nurses, and five certified medical assistants. Office managers, clerical staff, and students at the clinic were excluded from the study.

Procedure

IRB Approval

The study began after approval from the Institutional Review Board (IRB) was obtained on October 18, 2023, to ensure the protection of human subjects. The study was determined by the IRB to meet the federal criteria to qualify as an exempt study.

Description of Evidenced-Based Intervention

The project began with a pre-test to evaluate knowledge and attitudes concerning implicit bias and systemic racism before the educational intervention. Next, the educational program was delivered in the form of a PowerPoint presentation. The beginning of the educational program provided a brief description of the unconscious and conscious processing of the brain's ability per second. This was followed by a series of images of people; participants were asked to verbally share words that they felt most accurately described each person. Then, for each image, the person's true identity was revealed to illustrate that first impressions are not always correct.

The concept of microaggressions was addressed, and many examples were delivered in a short video. Definitions of implicit bias and systemic racism were also provided, including a definition of systemic racism in healthcare. Examples were provided from *The 1619 Project* (Hannah-Jones, 2023), in the form of historical accounts of non-Hispanic Black patients being mistreated by the medical community, and discussion of the mistrust that still exists between this patient population and the healthcare system. of implicit bias is given.

Further content of the educational program included evidence of systemic racism in maternity care. There was then an emphasis on why trust matters with patients and how one clinical staff member can affect patient healthcare outcomes, either negatively or positively. Three videos displaying the impacts of systemic racism on healthcare outcomes were shown. A call for self-reflection was then delivered. Finally, a video was shown to demonstrate tools on how to SPEAK UP (Reed et al, 2022) if witnessing implicit bias from fellow clinical staff.

Following the educational program, the post-test was utilized to evaluate for increased knowledge and improvement in attitudes. A guided discussion about the content of this educational program among the participants to collect feedback was also completed. Next, a program evaluation was completed to analyze the effectiveness and value of the program and assess for needed improvements and revisions.

Measures and Instruments

The dependent variables were the clinical staff's knowledge and attitudes, assessed via the pre and post-tests that were completed before and after the educational program. The independent variable identified was the educational program, which was the intervention. The sample demographic variables included age, gender, level of education, years of medical experience, and race.

Data Collection

Qualtrics was utilized for the development and administering of the pre and post-test. This allowed for the consistent collection and utilization of the data as well as assistance with determining if data were missing. The method of mean substitution was utilized to replace any missing data. Demographic variables were created in Qualtrics to be collected as part of the needed participant data for signing in to the pre-test.

Data Analysis

Knowledge and attitude were analyzed for the mean of the difference between the pre and post-test before and after the intervention of the educational program. Due to having 10 pre and post-test pairs, non-parametric statistical testing was selected for the evaluation of the data. More specifically, the independent t-test was most appropriate due to the small sample size and due to this being a repeated measurement on a single sample or group. Finally, the demographic data were utilized by employing descriptive statistics.

Results

Sample Demographics

Ten participants completed the educational program, which included the entire clinical staff at UKWH-G. The majority of the participants were White (n=9) and female (n=9). There was only one reported Black (10%) participant and one male (10%) participant. The age range of the participants was 25-54 with those 35-54 (60%) comprising the majority. Fifty percent of the participants reported 16 years or greater of clinical experience, with only two (20%) participants reporting five years or less of experience. Five participants (50%) held undergraduate college degrees and three participants reported postgraduate degrees (30%) (Table 1).

Knowledge of Sample Before the Educational Program

The majority of the clinical staff participants (90%) answered correctly when asked if implicit bias is an unconscious preference for or against someone or something. Eight of the participants (80%) answered correctly that patients do not receive equitable treatment in healthcare. Also, most of the participants (80%) agreed that a patient's race impacts the quality of healthcare they receive. When the participants were given four choices to choose an example of a microaggression, only seven participants (70%) chose the correct answer which was "Speaking to a person of color, 'you are so articulate'". All ten participants (100%) answered correctly and in agreement to the following: All people have implicit biases; systemic racism exists in healthcare just as in society; our patients have implicit biases towards us as clinical staff; implicit biases and systemic racism negatively impacts healthcare outcomes for patients; we can redirect our minds to overcome implicit biases; one clinical staff member can negatively or positively impact patient care outcomes; Black Americans were used in health studies without being informed it would result in bad health outcomes (Table 2).

Program Evaluation by Sample Post Educational Program

Next, a program evaluation was completed to assess the perceived value of the educational program. Of the ten participants, nine (90%) completed the program evaluation. To the question, " Do you think you learned more than what you already knew about implicit bias and systemic racism with the program?", eight (88.9%) answered definitely yes while the remaining one participant (11.1%) answered probably yes. Notably, the participants were then asked if they would use what they learned in their daily care of patients with eight (88.9%) responding definitely yes and one (11.1%) responding probably yes. When the participants were asked if the educational program provided new and helpful information, seven participants (77.8%) answered definitely yes while the other two participants (22.2%) answered probably

yes. Eight of the participants (88.9%) answered they would be extremely likely and one participant (11.1%) somewhat likely to recommend colleagues to participate in the educational program.

Notably, the participants were asked about the value of repeating the program or a revised version annually, with six participants (66.7%) answering definitely yes and three participants (33.3%) answering probably yes. The participants were also asked if the content of the program was offensive. Four (44.4%) answered definitely not and two (22.2%) answered probably not, but three (33.3%) answered definitely yes. Lastly, the participants were asked if the content of the program was considered disturbing. This question resulted in the most varying range of opinions from the participants, with one (11.1%) answering definitely not, one (11.1%) probably not, two (22.2%) answered might or might not, one (11.1%) probably yes, and four (44.4%) definitely yes (Table 3).

Knowledge of Sample After the Educational Program

Out of the 10 participants who completed the pre-test, nine completed the post-test. There was no statistical difference when comparing the knowledge of the participants before and after the educational program (p=.77). The parametric test, independent samples t-test, was run with an alpha level of 0.05 to determine if a significant difference between the means of the repeated measurement (pre-test and post-test) on the same group of participants occurred. The mean of the pre-test (10.2) before the educational program and the mean of the post-test (10.33) following the post-test.

There were 11 total questions on the pre-test and post-test. Of note, the participants answered four of the questions numbered 2,4,6, and 7 correctly on the pre-test. However, only

88.9% (*n*=8) answered the questions numbered 2,4, and 6 correctly, and only 77.8% (*n*=7) correctly answered question 7 on the post-test. The questions answered incorrectly on the post-test were as follows: (2) all of us have implicit biases; (4) our patients have implicit biases towards us as clinical staff members; (6) we can redirect our minds to overcome implicit biases; (7) one clinical staff member cannot impact patient health outcomes positively or negatively. Three of the test questions numbered 3,5, and 10 were answered correctly both on the pre-test and post-test. Subsequently, there were three questions numbered 1,9, and 11 that were answered incorrectly on the pre-test but correctly on the post-test. After the education program, all participants (*n*=9) were able to correctly answer the following: (1) identify the correct definition of implicit biases; (9) identify a microaggression (11) identify a patient's race impacts the quality of healthcare they receive. There was an improvement in the score of question number 3 from 80% (*n*=8) on the pre-test to 88.9% (*n*=8) on the post-test, which was regarding all people receiving equitable treatment in healthcare (Table 2).

Discussion

The participants in this study were clinical staff with varying education levels, however, 80% reported as either college graduates or post-graduates. Therefore, one could deduce that this population of participants may have had previous exposure to this educational content. Also, of important note, these participants reported a high level of clinical experience with 50% reporting 16 plus years of experience and only 20% reporting five years or less. Logically, these participants have most likely been exposed to this educational content in their careers as well. As evidenced by the results of the pre-test, most of these participants had a basic understanding of implicit bias and systemic racism in healthcare before receiving the educational program.

Knowledge of Sample

Although there was determined to be a display of basic knowledge about implicit bias and systemic racism via the pre-test, there were important gaps identified in the participants' knowledge. Microaggressions are considered harmful acts of discrimination towards marginalized groups and are considered acts of racism (Kendi, 2019). Thirty percent of the participants could not identify an example of a microaggression on the pre-test. After the educational program, all participants (100%) on the post-test correctly identified the correct example of a microaggression. Also, it was noted that only 80% of participants answered "true" to "a patient's race impacts the quality of healthcare they receive"; however, all participants answered correctly following the educational program. Additionally, 20% of participants answered incorrectly "true" to the question "all patients receive equitable treatment in healthcare"; however, only one participant answered incorrectly following the educational program (Table 2).

Notably, there was a worsening of scores from the pre-test to the post-test on four questions: the items about implicit bias and the true/false statement "one clinical staff member cannot impact patient healthcare outcomes positively or negatively" (Table 2). According to the data collected, the post-test incorrect answers were chosen by the same individual participant for the four questions. Additionally, one other participant answered incorrectly to question number 7. The theme of these four questions is very similar concerning the acknowledgment of the existence of implicit biases. Hypothetically, if the participant questions the existence of implicit biases, the chosen answers to these questions could have been more opinion-based than factual. With regards to question 7, the additional participant answering incorrectly could have also been opinion-based versus a simple misreading of the question, since the preliminary response was

correct for all participants (n=10). There was no statistical difference (p=.77) between the scores of the pre-test before the educational program and the post-test following the educational program.

Opinion of Sample

Overall, the participants answered favorably in support of the value of the educational program. Although there was no statistical difference found between the scores of the pre-test and post-test, the participants (88.9%) predominantly reported definitely yes, they learned more than they knew before about implicit biases and systemic racism after the educational program. Considering that the overall purpose of the study was to improve the clinical staff workers' cultural competence, it is promising that the overall consensus was that they would definitely (88.9%) or probably (11.1%) use what they learned in the educational program in the daily care of patients. Also, the majority of the participants (88.9%) reported they would recommend their colleagues to participate in this program. One objective of this pilot study was to determine if it would be helpful to repeat this educational program annually. It was the opinion of the participants that this information would be helpful to be repeated annually with 66.6% reporting definitely yes and 33.3% reporting probably yes (Table 3). This opinion is of value since the plan is to share the value of the educational program with the institution with the goal of merging content into ongoing mandatory annual staff in-services.

The question about whether the content of the educational program was “offensive” may require further development. The wording of the question may have left some room for ambiguity as to whether the subject matter itself was offensive or the method of conveying the material. A further evaluation of the opinion with the most varying responses (definitely yes 44.4%, probably yes 11.1%, might or might not 22.2%, probably not 11.1%, definitely not

11.1%) in regards to finding the content of the educational program "disturbing" should also be considered and further defined (Table 3). This subject matter evokes visceral and intellectual responses that require a complex and sensitive approach in the delivery.

In the free text suggestions or "comments if desired" section, one-third of the participants (*n*=3) left comments. One participant noted, "The videos were relevant to what is seen in healthcare today". Another participant wrote, "The presentation was very eye-opening and informative". Lastly, a participant commented that they "Liked sharing thoughts about the images of people and how we place biases on people by looking at them and highlighting the severity of this problem by including everyday people as well as famous people" (Table 3).

Implications for practice

In preparation for this study, literature reviews revealed there are limited studies on educational programs specifically addressing implicit bias and systemic racism in maternal healthcare. This pilot study was an attempt to develop an educational program to educate clinical staff about implicit biases and systemic racism to positively impact the care they provide to non-Hispanic Black maternal patients. As evidenced by the disproportionate maternal death rate in this patient population, there needs to be much-continued work to combat this problem on many fronts. This project is spearheading change on the education front by advocating for this training to be part of the annual education requirements for the clinical staff at UK HealthCare. This could be expanded to a state-wide mandate such as by the Kentucky Board of Nursing (KBN) for nurses and other clinical staff licensing organizations as an annual continuing education requirement.

In this endeavor, it was also discovered there are limited validated tools to measure an individual's knowledge and embodiment of implicit biases and systemic racism. There could be

an effort to research and validate better tools for the assessment of implicit bias and racism for future use. Currently, there is a validated tool to measure the maternal experience of racism during obstetric care called *The PREM-OB Scale*^{TM} , developed by researchers in California to measure the maternal experience of racism during obstetric care (VanGompel et al., 2022). Future researchers could use *The PREM-OB Scale*^{TM} to assess non-Hispanic Black maternal patients' obstetric care experiences of racism before and after an educational program such as this one is implemented. This would require a more long-term time allotment that was not allowable for this project. Of note, the principal researcher for this project reached out on several occasions to one of the principal investigators and owner of the trademark of *The PREM-OB Scale*^{TM}, Karen Scott, M.D., to discuss the value of this tool, but did not receive a response. If this connection could be initiated, there would be presumed value in the future to work together to further develop this educational program.

The cost of this educational program was essentially a time commitment by a Doctor of Nursing Practice (DNP) student. Moving forward, the plan is for the finalized education program to be submitted to the institutions' education department for scaling across UK Healthcare, which will incur additional costs. However, the system and staff to develop the annual work-based trainings (WBTs) are already in place at UK, so the cost of implementation should be minimal. The cost of not implementing this as a WBT is far greater if there is the loss of even one maternal patient due to implicit bias and systemic racism. It is very difficult to put a dollar amount on the value of one human life, but actuaries attempt to do so for life insurance purposes. According to White et al. (2022), one maternal death cost $12,065,992.00, and between 2018-2020 maternal deaths cost in the U.S. was $27,426,000,000. As previously discussed, there are factors regarding a single maternal death that cannot be expressed in dollar

values. The plan is for the finalized education program to be submitted to the institution's education department for scaling across the institution.

Limitations

Although the results of this pilot study are positive, there are acknowledged possible limitations to the findings. This pilot study was a small sample with only 10 participants. This limits the generalizability of the results to the entire clinical staff population. Therefore, it would be a reasonable proposal for future researchers to use a larger sample size.

Also, it should be considered that the principal investigator works as a provider at UKWH-G where the study was conducted. As the principal project leader, the participants knew her personally and would possibly feel less comfortable during the presentation in sharing their honest responses. This could result in the clinical staff answering questions specifically on the Program Evaluation Post Educational Program (Table 3) more favorably in an attempt to please the principal investigator. Reassurance of anonymity was given to assist with reducing the impact of the honesty of responses. Concurrently, being a provider at this clinical practice had a positive impact in allowing the principal investigator access to the clinical staff for participants in this study.

Another consideration limiting the study was the request for several documents with a pre-test, post-test, and post-education evaluation. This could have resulted in less response compliance for the post-test and post-education evaluation. The pre-test and post-test were created by the principal investigator to evaluate the knowledge of implicit bias and systemic racism due to the lack of valid tools found to complete this measure. For future use, it would be beneficial to create a pre-test and post-test with tested validity of measuring the knowledge of this subject matter.

Conclusion

In summary, the CDC (2022) has reported maternal mortality is at an epidemic level. In Kentucky, 78% of those maternal deaths are considered preventable – this seems unconscionable. In attempts to combat this preventable maternal mortality rate and work to improve maternal health outcomes, an educational program addressing implicit biases and systemic racism was developed and administered to the clinical staff at UKWH-G to increase their cultural competence. Although there was no statistically significant difference in the participants' knowledge of implicit bias and systemic racism before and after the educational program, there were important gaps in the participants' knowledge that were remedied by the educational program. Notably as well, the majority of the participants acknowledged that they would make changes to the delivery of their patient care to non-Hispanic Black patients as a result of the program. This increased cultural competence of the clinical staff will presumably result in a more positive patient care experience for the non-Hispanic Black maternal patients with predicted improved health outcomes. Future research is indicated to focus on the non-Hispanic Black maternal patient health outcomes following an educational program delivered to the clinical staff.

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Appendix A

Pre-test

Age:
Gender:
Level of Education:
Years of Medical Experience:
Race:

1. Implicit bias is an unconscious preference for or against someone or something.
   a. True
   b. False
2. All people have implicit biases.
   a. True
   b. False
3. Systemic racism exists in healthcare today in 2024.
   a. True
   b. False
4. Our patients have implicit biases towards us as clinical workers.
   a. True
   b. False
5. Implicit bias and systemic racism negatively impact healthcare outcomes for patients.
   a. True
   b. False
6. We can redirect our minds to overcome implicit biases.
   a. True
   b. False
7. One clinical staff member cannot impact patient health outcomes.
   a. True
   b. False
8. All patients receive the same medical treatment based on their diagnosis.
   a. True
   b. False
9. Choose an example of a microaggression.
   a. Telling a fellow staff member, “you are getting on my nerves”.
   b. Telling a fellow staff member, “your hair is a mess today”.
   c. Telling a supervisor, “I do not agree with you”.
   d. Speaking to a person of color, “you are so articulate”
10. In American history, Black Americans were used as research subjects without informed consent.
    a. True
    b. False
11. A patient’s race impacts the quality of healthcare they receive.
    a. True
    b. False

Appendix B

Post-test

1. Implicit bias is an unconscious preference for or against someone or something.
   c. True
   d. False
2. All people have implicit biases.
   c. True
   d. False
3. Systemic racism exists in healthcare today in 2024.
   c. True
   d. False
4. Our patients have implicit biases towards us as clinical workers.
   c. True
   d. False
5. Implicit bias and systemic racism negatively impact healthcare outcomes for patients.
   c. True
   d. False
6. We can redirect our minds to overcome implicit biases.
   c. True
   d. False
7. One clinical staff member cannot impact patient health outcomes.
   c. True
   d. False
8. All patients receive the same medical treatment based on their diagnosis.
   c. True
   d. False
9. Choose an example of a microaggression.
   e. Telling a fellow staff member, “you are getting on my nerves”.
   f. Telling a fellow staff member, “your hair is a mess today”.
   g. Telling a supervisor, “I do not agree with you”.
   h. Speaking to a person of color, “you are so articulate”
10. In American history, Black Americans were used as research subjects without informed consent.
   c. True
   d. False
11. A patient’s race impacts the quality of healthcare they receive.
   a. True
   b. False

Appendix C

Program Evaluation Post Educational Program

1. Do you think you learned more than what you already knew about implicit bias and systemic racism with this program?
    a. Not at all
    b. Somewhat agree
    c. Agree nor disagree
    d. Likely agree
    e. Strongly agree

2. Did you find the content of this program to be new and helpful information?
    a. Not at all
    b. Somewhat agree
    c. Agree nor disagree
    d. Likely agree
    e. Strongly agree

3. Do you think you will use what you learned today in your daily care of patients?
    a. Not at all
    b. Somewhat agree
    c. Agree nor disagree
    d. Likely agree
    e. Strongly agree

4. How likely would you be to recommend your colleagues to participate in this program?
    a. Not at all
    b. Somewhat likely
    c. Not sure
    d. Likely
    e. Very likely

5. Do you think it would be helpful to repeat this program annually to review the content?
    a. Not at all
    b. Somewhat agree
    c. Agree nor disagree
    d. Likely agree
    e. Strongly agree

6. Did you find the content of this program to be offensive?

    a. Not at all
    b. Somewhat agree
    c. Agree nor disagree
    d. Likely agree
    e. Strongly agree

7. Did you find the content of this program to be disturbing?

    a. Not at all
    b. Somewhat agree
    c. Agree nor disagree
    d. Likely agree
    e. Strongly agree

8. Any suggestions or comments concerning the content of this educational program?

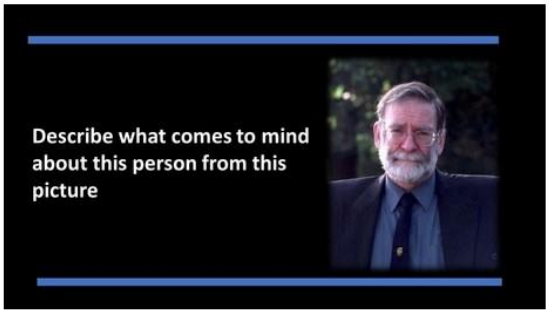
Appendix D: Educational Program Slides

1.

2.

3.

4.



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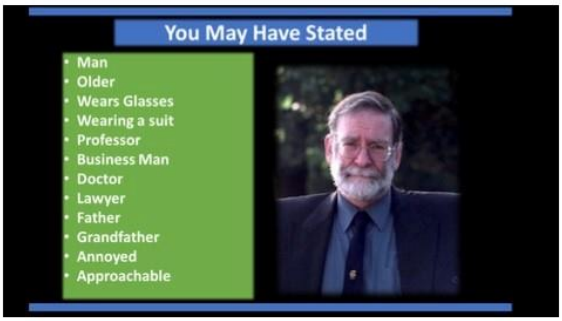

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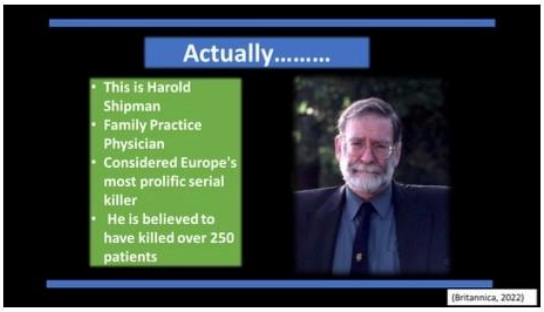

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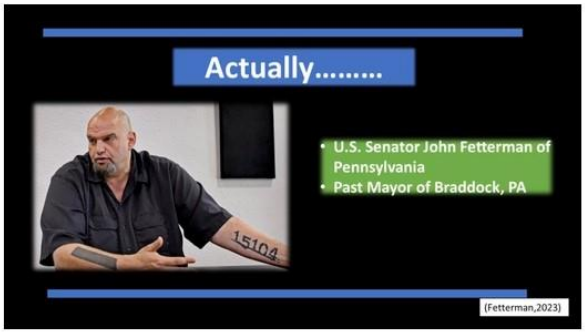

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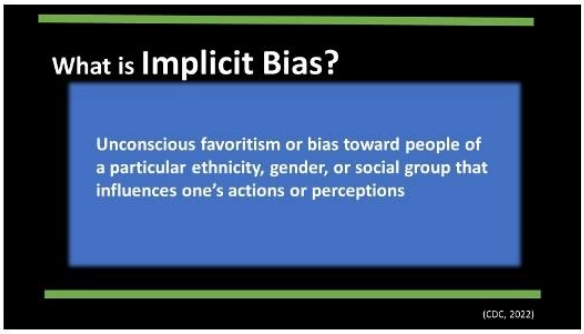

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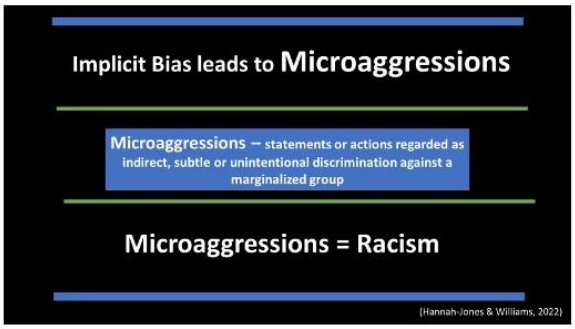
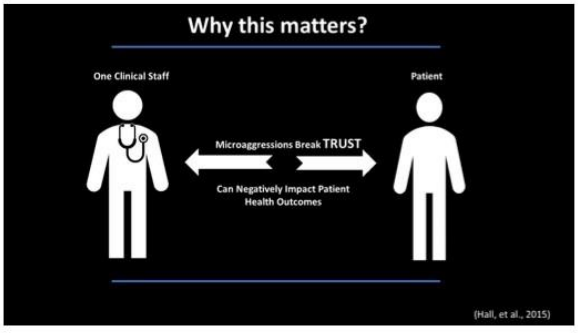


13.

14.

13. Video with people speaking microaggression examples

15.



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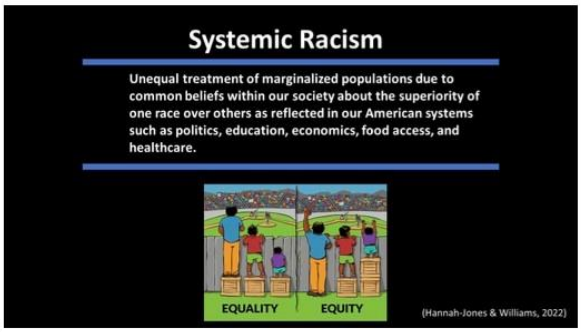

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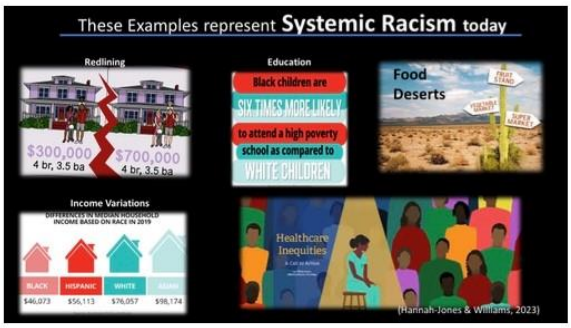

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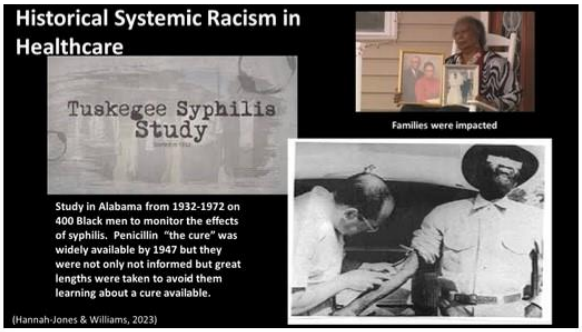

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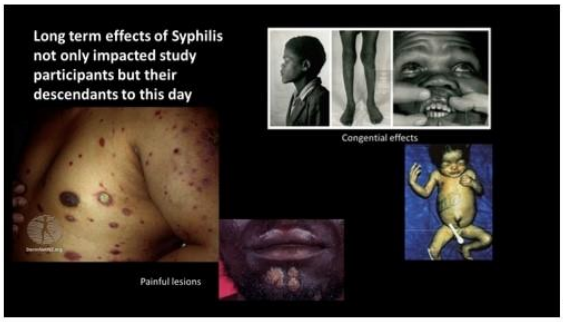


22.

23.

24.

24. Video with example of systemic racism

25. 

26. 

25. Video about Tori Bowie – maternal death

26. Video about Serena Williams – near miss maternal death

27. 

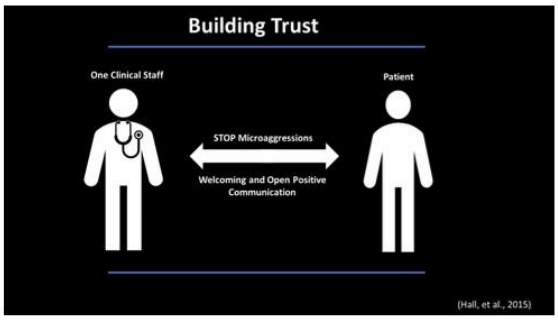
28. 

27. Video about Dr. Susan Moore death from COVID

29. 

30. 

31. 

32. 

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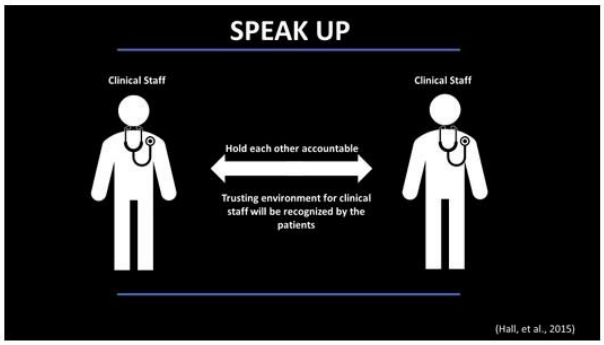

36.

36. Video about Speaking Out

37.

38.

39.

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Table 1

Sample Demographics (N = 10)

Variable	n (%)
Age	
25-34	4 (40.0%)
35-44	3 (30.0%)
45-54	3 (30.0%)
Gender	
Female	9 (90%)
Male	1 (10%)
Level of education	
Some College	2 (20.0%)
College Graduate	5 (50.0%)
Postgraduate Degree	3 (30.0%)
Years of clinical experience	
0-5	2 (20.0%)
6-10	1 (10.0%)
11-15	2 (20.0%)
16-20	3 (30.0%)
25+	2 (20.0%)
Race	
White	9 (90.0%)
Black	1 (10.0%)

Table 2

Knowledge of Implicit Bias and Racism Before and After Educational Program

	Pre-education (n = 10) *mean* (SD)	Post-education (n = 9) *mean* (SD)	*p*
Knowledge score (0-11)	10.2	10.33	.77
	% correct	% correct	*p*
1. Implicit bias is an unconscious preference for or against someone or something.	90%	100%	>.99
2. All of us have implicit biases.	100%	88.9%	.47
3. Systemic racism exists in healthcare just as it does in society.	100%	100%	>.99
4. Our patients have implicit biases towards us as clinical staff members.	100%	88.9%	.47
5. Implicit bias and systemic racism negatively impact healthcare outcomes for patients.	100%	100%	>.99
6. We can redirect our minds to overcome implicit biases.	100%	88.9%	.47
7. One clinical staff member cannot impact patient health outcomes positively or negatively.	100%	77.8%	.211

8. All patients receive equitable treatment in healthcare.	80%	88.9%	>.99
9. Choose an example of a microaggression.	70%	100%	.211
10. In American history, Black Americans were used as research subjects without them being informed it would result in bad health outcomes.	100%	100%	>.99
11. A patient's race impacts the quality of healthcare they receive.	80%	100%	.47

Table 3

Frequency Table for Program Evaluation Post Educational Program

Question	Answer	Frequency Number (%)
1. Do you think you learned more than you already knew about implicit bias and systemic racism with this program?	Probably yes Definitely yes	1 (11.1%) 8 (88.9%)
2. Do you think you will use what you learned today in your daily care of patients?	Probably yes Definitely yes	1 (11.1%) 8 (88.9%)
3. Did you find the content of this program to be new and helpful information?	Probably yes Definitely yes	2 (22.2%) 7 (77.8%)
4. How likely would you be to recommend your colleagues to participate in this program?	Somewhat likely Extremely likely	1 (11.1%) 8 (88.9%)
5. Do you think it would be helpful to repeat this program or a revised version annually to review the content?	Probably yes Definitely yes	3 (33.3%) 6 (66.7%)
6. Did you find the content of this program to be offensive?	Definitely not Probably not Definitely yes	4 (44.4%) 2 (22.2%) 3 (33.3%)
7. Did you find the content of this program to be disturbing?	Definitely not Probably not Might or might not Probably yes Definitely yes	1 (11.1%) 1 (11.1%) 2 (22.2%) 1 (11.1%) 4 (44.4%)