

Implicit Bias Education: Addressing Racial Disparities in Maternal Healthcare

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Background

- Black women in the US are three to four times more likely to die before, during, and after childbirth compared to their white counterparts.
- Racial disparities in maternal morbidity and mortality continue to exist when all factors other than race are accounted for such as socioeconomic status, educational level, insurance type, and zip code.
- Implicit bias is a subconscious process that all humans have which can impact the care received by Black patients.
- Implicit bias education has been shown to improve outcomes for patients as well as increase patient satisfaction.

Project Aims

- **Aim 1:** Determine healthcare provider baseline knowledge of implicit bias using online pre-testing and use of the Implicit Association Test.
- **Aim 2:** Determine change in knowledge after educational intervention via online post-testing.
- **Aim 3:** Analyze retention of knowledge eight weeks after educational intervention via second online post-test.

Methods

- Pre-test/post-test educational intervention design.
- Conducted at an urban community hospital south of Pittsburgh, Pennsylvania.
- The target study population included all healthcare workers who work on the Labor and Delivery Unit. This included nurses, midwives, physicians, physician assistants, nurse-practitioners, and surgical technicians.

Sample Characteristics – Pre-test (n = 37)

Survey Respondents	n (%)
Age in years	
18-24	6 (16.2)
25-34	14 (37.8)
35-44	10 (27.1)
45-54	5 (13.5)
55-64	1 (2.7)
65+	1 (2.7)
Gender	
Female	33 (89.2)
Male	4 (10.8)
Race	
White	36 (97.3)
Hispanic	1 (2.7)
Role at Jefferson Hospital	
Nurse	21 (56.8)
Student nurse	6 (16.2)
Midwife	4 (10.8)
Physician	2 (5.4)
PA	2 (5.4)
NNP	1 (2.7)
Scrub tech	1 (2.7)
Previous bias training	
No	19 (51.4)
Yes	18 (48.6)

Intervention

- 90-minute educational intervention developed by the PI based on current literature.
- Educational intervention included information about implicit bias, maternal mortality, taught tools to combat implicit bias impacting patient care, and facilitated group discussion.
- Pre-testing and post-testing specific to implicit bias and maternal mortality created by the PI and a team of experts.
- Use of the Implicit Association Test for participants to learn their level of unconscious bias.
- Two separate 90-minute interventions provided on the same day to increase ability for participation.

Results

- **Aim 1:** Participants were asked to complete a pre-test to determine baseline knowledge of implicit bias and maternal mortality. 37.8% of participants reported they agreed or strongly agreed that they understood what implicit bias was. 24.3% of participants selected “disagree.” Approximately half of participants had previously taken implicit bias training.
- **Aim 2:** A summary score was created for each participant’s pre-test and first post-test. The mean pre-test score was 9.05 (SD 4.855). The mean initial post-test score was 14.92 (SD 2.86). A paired t-test was run to compare these scores for the 22 individuals that completed both tests. It was found that there was a statically significant change in score as evidenced by a p-value of 0.00. The test statistic was 9.38. This increase in summary score is displayed graphically below.
- **Aim 3:** To determine retention of knowledge, a second post-test was sent eight weeks after the educational intervention. There were a total of nine individuals who took all three tests. Summary scores were calculated for each test. Two separate Wilcoxon signed rank tests were conducted due to the abnormally distributed data. Both tests recommended the null hypothesis (of no change in knowledge) be rejected.

Aim 2: Comparing pre-test to post intervention (n = 22)



Qualitative Results

- Participants were asked on all three tests to provide qualitative feedback through open ended questions. These responses were thematically analyzed.
- Some of the participant responses are included here:
 - “[This presentation] gave me good tools on how to recognize my implicit bias and how to deal with it correctly and be able to provide competent care and set standard care to everyone.”
 - “[After the presentation] I take a moment to recognize how I may be biased when entering the room of someone who is different and I look at how I can change my care to provide them the same care as everyone else.”
 - “I was very surprised at the statistics proving implicit bias related to maternal morbidity. Those numbers can't lie.”
 - “Such an eye opener for me. I would have NEVER seen myself as a person with implicit bias. I think by being so defensive by it I may actually be!”

Conclusions

- This project demonstrated a statistically significant increase in knowledge related to implicit bias and maternal mortality for healthcare providers who took part in a 90-minute educational intervention.
- Participants demonstrated retention of knowledge eight weeks post-intervention.
- Participants found this educational intervention beneficial.
- Healthcare providers were able to acknowledge how implicit bias may impact the care they provide to Black patients.

Limitations

- The most significant limitation to this study was the use of participant’s self-identified anonymous four-digit codes for each online test. Participants had a difficult time remembering which code they used previously and therefore multiple responses to post-tests could not be accurately paired with demographics and pre-test information.
- Due to a lack of previously validated tools, the PI developed the survey and components of the educational intervention.

Future Directions

- Implicit bias education, like the one demonstrated here, should be required by healthcare organizations.
- This educational intervention can be adapted to be used on other Labor and Delivery units as well as expanded to include other healthcare specialties.
- Further dissemination of this study will be achieved through publication in a relevant journal and promotion of study results at conferences.