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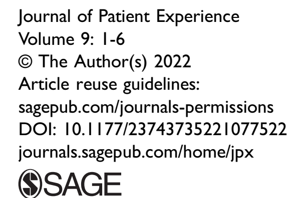

Association Between Provider-Patient Racial Concordance and the Maternal Health Experience During Pregnancy

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Abstract

The main objectives of this study were to collect data on the patient-provider relationship and evaluate the association between patient-provider racial concordance and patient experience during pregnancy. This area of study is important to analyze given the racial disparities that exist in the current healthcare system within the United States. The survey contained 26 questions and was self-administered using Qualtrics. Facebook was used as the means to recruit study participants in the Columbus, Ohio area between January–March 2021. The survey was retrospective, internet-based, anonymous, and completely voluntary and yielded a total of 14 respondents. The close-ended responses were analyzed using Fisher's exact test and the open-ended responses were considered qualitatively. Due to limited sample size, we did not see statistically significant associations between racial concordance and our variables of interest. However, the open-ended comments that we received reveal nuances and concerns in the maternal health field, including the value of support and guidance from other women who have been pregnant, and patients' increasing comfort with self-advocacy with the provider over time. Participants made suggestions for ways their experiences could be improved. This area of research needs to be further investigated as data connecting patient race with provider race and how that can affect the patient experience are not readily available.

Keywords

Pregnant women, maternal health, racial concordance, patient-physician

Introduction

Racial concordance in health care is when the patient and physician have the same racial identity, while racial discordance is when the racial identity of these two parties is different. The racial identity of the patient and physician may have an impact on patient-physician relationship factors such as "trust, knowledge, regard, and loyalty" (1). Previous studies have focused on the patient data, such as tests, procedures, outcomes; however, it is important to note the patient experience as well. The level of comfort and satisfaction of the patient is not well documented (2).

The population of the United States, as of 2019, is 76.3% white and 13.4% Black or African American (3) while 56.2% (516,304) of all active physicians identify as white and 5.0% (45,534) identify as Black (4) as of 2018. When these statistics are broken down by race and gender within the specialty of Obstetrics/Gynecology (OB/GYN), 15,034 and 10,181 identify as white women and white men respectively, while 2,973 and 1,082 identify as Black women and Black men respectively (5,6). Based on the previous data, we calculated that Black individuals have 11 times fewer physicians and 6 times fewer less OB/GYN options of the same race to choose from throughout the United States compared to their white counterparts.

A woman's race/ethnic background is a factor that can play into the level of comfort and trust they experience with their provider. In a study conducted by Armstrong (2), "trust is central to a physician-patient relationship because

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of the risk and uncertainty inherent in medical care" (2) and this distrust is "particularly prevalent among racial and ethnic minority groups" (2). During pregnancy, "Black, American Indian, and Alaska Native (AI/AN) women are two to three times more likely to die from pregnancy-related causes than white women'' (7) and this disparity has persisted through time and across age groups (8). Black and AI/AN women experience higher pregnancy-related mortality rates (PRMR) of 40.8 and 29.7, respectively, compared to their white counterparts and the overall United States PRMR of 16.7 (8). This can be attributed, in part, to "factors such as stereotyping and implicit bias on the part of health care providers'' (9). Given the history of the United States in regard to racial differences, the potential for cultural mistrust to exist between minority women and a white provider is not surprising. When we focus specifically on the Black community, there is a "history of adverse treatment by the medical system, dating back to slave experimentation and including the Tuskegee Syphilis Study" (2). The evidence that supports a higher distrust in the medical community from minority groups is mainly anecdotal, there are few studies that focus on the racial differences in health care (2).

As mentioned before, the associations between racial discordance and health outcomes have not been largely explored, specifically as it relates to the maternal experience during pregnancy. One of the factors contributing to this is the lack of readily accessible data on the race of the patient as well as their provider.

The objectives of this study were to i) collect data on the patient-provider relationship and the perceived level of comfort, utilization, accessibility, and satisfaction of the patient during pregnancy and ii) to evaluate the association between racial discordance and patient experience during pregnancy. These data may help identify what effect racial discordance had on the care received. We hypothesized that women in a racially concordant relationship with their physician would report a better experience compared to women in a racially discordant relationship.

Methods

Survey Development and Data Collection

The survey was developed based on factors relevant to expectant mothers in their pregnancy, and the goal was to capture the patient experience and their satisfaction with their provider. Questionnaires were self-administered utilizing Qualtrics. There were 26 questions on patient demographics, experience during pregnancy, and suggestions to improve maternal health practices. This survey was retrospective, internet-based, completely voluntary, and anonymous. Facebook was utilized as the means to recruit study participants using a Facebook group subscribed to by business professionals in the Columbus, Ohio area from January–March 2021. The University of Michigan Institutional Review Board approved the survey instrument (HUM00192407). The patient's race/ethnicity was self-reported, and the physician's race is the racial identity the participants perceived their physician to be. Figure 1 includes the questions administered in the survey.

Statistical Analysis

Data were managed and analyzed using RStudio version 4.0.4. If a participant did not agree to participate in the survey or if they were under the age of 18, they were removed from the data. Any missing data was converted into not applicable (NA), and not included in the analysis, as participants were only required to answer the questions they felt most comfortable responding to.

The racial concordance variable was created based on whether the participant shared their racial/ethnic background along with their physician's or not. Due to the small sample size, we were unable to look at patient-physician relationships specifically by race/ethnicity (e.g., Black patient-Black physician). The variables of interest were then stratified by the racial concordance variable to identify any potential significance using Fisher's exact test.

The variables of interest were advocacy, concerns met, appointment attendance, accessibility, and satisfaction. 'Advocacy' measured the level of comfort the participant had advocating for themselves during pregnancy. 'Concerns Met' asked if the participant felt their physician addressed all of their concerns. 'Appointment Attendance' measured how many prenatal appointments participants were able to attend. 'Accessibility' asked about the difficulty of attending appointments. 'Satisfaction' measured how satisfied the participant was with the care they received.

Due to the small sample size, the variables of interest responses were aggregated to better evaluate any potential relationships.

Results

Participants

The survey collected information from 14 mothers, of whom 9 had a racially discordant relationship with their physician and 5 had a racially concordant relationship. Table 1 shows that these women were similar in age during their most recent pregnancy and attended their appointments in either an urban or suburban area. It is interesting to note that the patients in a discordant relationship had at least some college education or more, while those in concordant relationships had at least a high school diploma.

Relevance

While there was no statistical significance found after applying Fisher's exact test to test associations between racial concordance

Q1 Participation question
Q2 What is the highest level of school you have completed or the highest degree you have received?
Less than high school degree (1) | High school graduate (high school diploma or equivalent including GED) (2) | Some college but no degree (3) | Associate degree in college (2-year) (4) | Bachelor's degree in college (4-year) (5) | Master's degree (6) | Doctoral degree (7) | Professional degree (JD, MD) (8)
Q3 Choose one or more ethnicities that you consider yourself to be:
White (1) | Black or African American (2) | American Indian or Alaska Native (3) | Asian (4) | Native Hawaiian or Pacific Islander (5) | Hispanic/Latinx (6) | Other (7)
Q4 How old are you now?
Q5 How old were you during your most recent pregnancy?
Q6 Where do you currently live and what is your zip code? (e.g., Columbus, OH 43_ _ _)
Q7 What is the city of the clinic or hospital where you attended your most recent pregnancy appointments? (e.g., Dublin, OH)
Q8 Did you have the same health care provider throughout your most recent pregnancy?
Yes (1) | No (2)
Q9 If you answered no to the previous question, why not?
Q10 What is the race/ethnicity of the health care provider you saw during your most recent pregnancy?
White (1) | Black or African American (2) | Native American or Alaska Native (3) | Asian (4) | Hispanic/Latinx (5) | Native Hawaiian or Pacific Islander (6) | Other (7)
Q11 Who provided care for you during your most recent pregnancy?
Primary Care Physician (1) | OB/GYN (obstetrician-gynecologist) (2) | Nurse/Nurse Practitioner (3) | Certified Midwife (4) | Doula (5) | Other (6)
Q12 What was your preferred health care provider during your most recent pregnancy?
Primary Care Physician (1) | OB/GYN (obstetrician-gynecologist) (2) | Nurse/Nurse Practitioner (3) | Certified Midwife (4) | Doula (5) | Other (6)
Q13 During any of your pregnancies, how comfortable did you feel advocating for your needs and/or your future child's needs with your health care provider?
Extremely comfortable (1) | Moderately comfortable (2) | Slightly comfortable (3) | Neither comfortable nor uncomfortable (4) | Slightly uncomfortable (5) | Moderately uncomfortable (6) | Extremely uncomfortable (7)
Q14 Have you always felt comfortable advocating for yourself as needed during appointments or has this changed over time? Please elaborate below.
Q15 Did you have any concerns that you felt were not met?
Definitely yes (1) | Probably yes (2) | Might or might not (3) | Probably not (4) |
Definitely not (5)
Q16 Were there any complications detected during any of your pregnancies?
Yes (1) | No (2)
Q17 Were you referred to a secondary hospital/clinic/specialist for treatment of these complications?
Yes (1) | No (2)
Q18 Please elaborate to any answers selected above:
Q19 How many appointments during your most recent pregnancy were you able to attend?
All (1) | Almost All (2) | Half (3) | Less than half (4) | None (5)
Q20 What were the reasons for being unable to attend more than half of your most recent pregnancy appointments?
Financial difficulties (1) | Unreliable transportation (2) | Appointment times (i.e. office only open during your work hours) (3) | Other (4)
Q21 How difficult was it to attend your appointments?
Extremely easy (1) | Moderately easy (2) | Neither easy nor difficult (3) | Moderately difficult (4) | Extremely difficult (5)
Q22 How satisfied were you with the care you received from the health care provider during your most recent pregnancy?
Completely satisfied (1) | Partially satisfied (2) | Neither satisfied nor dissatisfied (3) | Dissatisfied (4)
Q23 What were the reasons for your dissatisfactions?
Q24 Did you experience any complications during delivery?
Yes (1) | No (2)
Q25 If you answered yes above, please elaborate on what happened
Q26 Do you feel that you received the best care possible for you and your child? Why or why not?
Q27 What are your suggestions for improving maternal health services for women in your area?

Figure 1. Survey questions.

and the variables of interest, it is noteworthy to look at the open-ended comments. These responses[1] reveal important nuances and concerns that the participants felt comfortable sharing.

A common theme related to advocacy that presented in the open-ended question was that participants felt more comfortable advocating for themselves as they became more familiar with their providers or discussed pregnancy with other mothers in their life. Out of the ten participants who elaborated on the level of comfort advocating for themselves, only one had always felt comfortable. Below are responses that four respondents provided regarding the question "have you always felt comfortable advocating for yourself

Table 1. Patient Demographics by Patient-Provider Racial Concordance (N = 14).

Variable	Discordant (N = 9)	Concordant (N = 5)
Current Age (mean)	27.4	28.8
Age During Most Recent Pregnancy (mean)	26.5	26.0
Education Level		
High School	0	2
Some College, No Degree	3	1
College +	6	2
Appointment Area		
Urban	4	3
Suburban	4	1
Rural	0	1

as needed during appointments or has this changed over time?":

> "No, it was my first pregnancy, so it wasn't until afterwards that I would speak with other mothers and realized that a lot of steps were skipped with me."

> "I have never been comfortable advocating because providers have generally brushed aside questions and concerns as if they were irrelevant."

> "As my pregnancy went on and I got more familiar with my provider I felt more comfortable speaking up"

> "Yes, I do feel comfortable because this is mine and my child's life and I need to do whatever I can to make it the best possible."

While the participants generally became more comfortable advocating for themselves throughout their pregnancy, some felt as if their concerns were not being heard. Of the four participants who selected that they were neither satisfied nor dissatisfied with the care they received during pregnancy, two had a racially concordant relationship with their provider and two had a racially discordant relationship. The responses below highlight how important it is for the provider to take the time to listen and acknowledge what the patient is saying during the allotted appointment time.

> "Had many signs and symptoms during my pregnancy that should have led to me being labeled a high-risk pregnancy. I was not considered high risk until I was put on bed rest."

> "I liked the doctor, she was nice, but I felt like the doctor didn't have enough time to sit and explain to me if I had any concerns or general information. She was always in a rush."

> "Not listening to my prior medical history when treating during pregnancy. Having a different OBGYN deliver [my baby] than [the one] I saw my entire pregnancy. Not understanding my internship obligations 2 h away, still making me come to appointments every 2 weeks and not allowing me to get the small 15-min checkups closer to my internship. (I wanted to keep my [redacted] OB because I would return there after my internship prior to giving birth)"

Due to the way the racially concordant variable was created, we are unable to use the results to make any conclusions regarding Black maternal health as the variable included white women with white providers and Black women with Black providers. However, the responses we received can be beneficial for maternal health moving forward and will be discussed further in the discussion section.

Discussion

We developed and administered an original survey among pregnant women in the Columbus, Ohio area to gather information on the patient-provider relationship and evaluate the association between racial concordance and patient experience during pregnancy. Although the response rate was low, and we could not make quantitative conclusions about the association, this survey on an understudied issue yielded some important insights, especially from the open-ended questions.

At the end of the survey, the participants were asked "What are your suggestions for improving maternal health services for women in your area?". It is important for maternal health providers to understand the concerns of the women in the area and adjust as necessary to provide the best care. Some of the responses are shared below:

> "I have heard stories in the past that the doctor isn't advocating for the patient's wants/needs. Some women have a birth plan and only wish for it to be followed and it is my belief that there is a substantial portion of doctors who do not believe it is necessary to follow those wishes through the end of pregnancy. I would say improving the wishes of the parents should be something to be improved and followed."

> "I would have liked to get a Black doula, but there weren't any nearby. More doctors and nurses of color would be my suggestion. At the time I lived in [redacted], I live in [redacted] now. The towns become more diverse, but the public health companies, firemen, paramedics, doctors, need that diversity as well."

> "I get insurance through the government. I feel like there are not enough doctors that accept those kinds of insurances. There are very limited resources not just for pregnancy but in women's care in general. Also, there should be more help for low income/immigrant women."

> "Overall, better one on one care. Doctors (in my experience) are required to take on too many patients and therefore can't possibly give each of their patients the attention they deserve.

> The practice I went to did not care about making pregnancy any easier on me and was more so interested in the monetary benefits (IMO)."

Based on the responses from the participants, there are several suggested ways that providers can improve the patient experience. One participant suggested "better one on one care". This could be achieved if providers listen and empathize with their patients to build trust in the relationship. As noted previously, a common theme with these participants is that they became more comfortable advocating for themselves with their provider as the relationship grew; however, there can be a strain put on the relationship if the patient feels as if their concerns aren't being addressed. The provider can offer an anonymous patient experience feedback form that pregnant mothers can fill out at any point of their pregnancy. This will allow the mothers to voice their concerns and give the provider a chance to adapt to the feedback received.

Currently, no publicly available database lists the race/ethnicity of maternal health providers (OB/GYNs, NPs, doulas, etc.) in the patient's area. This complicates the efforts to reduce the racial disparities that exist within the maternal health space. Creating such a database would grant women the ability to choose a provider who matches their race/ethnicity, if they choose to do so. A participant mentioned wanting a Black doula during their pregnancy but being unable to locate any nearby. While the database would not solve the issue of lack of nearby Black doulas, it can provide information of nearby Black providers available to the patient as an alternative, as well as the various insurance options that are accepted.

Implicit biases are present within the healthcare community in the United States and worldwide. These biases can stem from individual viewpoints on race (Italy), gender (UK), weight (Singapore), and more (10). Moving forward, the implicit bias training that medical students and licensed physicians participate in need to be reassessed and updated. While the goal of improving patient outcomes, quality of care, and reducing health disparities amongst marginalized groups is well-intended, the "training effectiveness is gauged merely by asking study participants to reflect on their own implicit bias" (10) instead of providing strategies for students and physicians to reduce their implicit biases. Mindfulness-based practices not only benefit the patient, but "can offer additional benefits to health care providers, including decreasing burnout and improving empathy and well-being" (11). Some strategies and mindfulness-based practices include "stereotype replacement, in which individuals were trained to recognize stereotypes being perpetuated in society and within themselves and how to replace them with nonstereotypic responses; individuation, in which individuals try to get to know someone else and focus on their individual characteristics, instead of their group-based characteristics'' (11). Once strategies to combat implicit biases are provided, they will need to be tested for their effectiveness in practice.

Table 2. Bivariate Patient-Provider Racial Concordance and Experience by Total Sample (N = 14).

Experience	Discordant (N = 9)	Concordant (N = 5)	*p*-value
Advocacy			0.74[a]
Comfortable	5	4	
Neither Comfortable nor Uncomfortable	2	0	
Uncomfortable	1	1	
Concerns Met			0.40[a]
Yes	4	3	
Maybe	0	1	
No	4	1	
Complications During Pregnancy			1.00[a]
Yes	3	1	
No	5	4	
Appointment Attendance			0.42[a]
All	7	4	
Almost all	0	1	
Accessibility			0.73[a]
Easy	5	3	
Neither easy nor difficult	2	1	
Difficult	0	1	
Satisfaction			0.25[a]
Completely Satisfied	1	3	
Partially Satisfied	3	0	
Neither satisfied nor dissatisfied	2	2	

[a]Fisher's exact test used.

Limitations

The main limitation of this study is the small sample size of 14 participants, and its potential impact on the quantitative component of the study. Due to COVID-19-related restrictions on in-person activities, we were unable to conduct this survey in person at locations such as clinics, reproductive service providers, and more. While other Facebook groups received requests to post the survey to their group members, the requests were either denied or did not receive a response.

All of the variables of interest in the discordant column in Table 2 had a varying degree of incompleteness as participants were not required to respond to every question. This in turn decreased the statistical power and potentially our ability to identify significant associations or specific patterns. We wanted to ensure that the participants had the option to provide the information they wanted without feeling pressured to answer every question; however, this approach introduced missing information. In the future, we would want to at least have complete information for demographics and provide more transparency on what information is being

collected. The participants should have the choice to elaborate on their selections, if necessary, but this won't be a requirement. A goal for the next study would be to improve the sample size, as this can help withstand reductions due to questions being skipped.

The wording of the close-ended questions should have more closely matched the wording of the open-ended questions. For example, question 13 asked how comfortable the participants felt advocating for their needs and their child's needs; however, the follow up question 14 asked participants to elaborate if they always felt comfortable or if it changed over time. The responses to question 13 were leaning towards being comfortable advocating for themselves, but the responses to question 14 show that this occurred over the course of the relationship with the provider. This disconnected the quantitative and qualitative responses, specifically for question 13 and 14.

Conclusion

Due to the small sample size for evaluating the patient-provider relationship, we cannot draw quantitative conclusions surrounding the patient experience. However, this area of research does not have much readily available data connecting patient race with provider race and how that racial concordance affects the patient's experience. Further investigation into this topic should be completed, and we hope the insights and survey design documented here may be useful for future research and efforts to reduce the striking and unacceptable racial disparities in maternal health and pregnancy outcomes.

Author's Note

This study was approved by the University of Michigan Institutional Review Board (IRB), Ann Arbor, Michigan (HUM00192407). All procedures in this study were conducted in accordance with University of Michigan Institutional Review Board (IRB), Ann Arbor, Michigan HUM00192407 approved protocols. Written informed consent was obtained from the participants for their anonymized information to be published in this article.

Declaration of Conflicting Interests

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Note

1. Responses included are not verbatim and were edited for clarity.

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