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The Influence of Personal and Group Racism on Entry into Prenatal Care among African American Women

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Abstract

Background—Racism has been hypothesized as a barrier to accessing healthcare. No quantitative study has directly assessed its influence on women's initiation of prenatal care (PNC). We examined the relationship between PNC entry and experiences of personal and group racism among low-income African American women. We also examined whether the use of denial of racism as coping mechanism was associated with a delay in accessing PNC.

Methods—Using a prospective/retrospective cohort design we collected data from 872 African American women (prenatally: n=484; postpartum: n=388). Multinomial logistic regression was used to assess the relationship between the overall denial of racism index and PNC initiation.

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Author Descriptions

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Findings—PNC entry was not significantly associated with personal experiences of racism (p=0.33); it was significantly associated with group experiences (p<0.01).

Conclusion—Denial of racism experienced by other AAs was a barrier to early PNC among low-income African American women. Delayed access to PNC may be rooted in the avoidance of racialized experiences among less empowered women when faced with discrimination. Our findings have important implication for the engagement of African American women into the PNC delivery system and the health care system postpartum.

Introduction

For over a century prenatal care (PNC) has been the foundation of healthcare for pregnant women (Alexander & Kotelchuck, 2001). Receiving early and adequate PNC has been shown to reduce the risk of maternal morbidity and mortality (Alexander & Cornely, 1987; Alexander & Kotelchuck, 2001; Collins Jr, Wall, & David, 1997). It also affords providers the opportunity to conduct early screening for psychosocial risk factors such as depression or substance abuse that may impact fetal development and maternal health (Conway & Kutinova, 2006; Kitsantas, Gaffney, & Cheema, 2012). Unfortunately, racial differences in the timing of PNC entry exist (Alexander & Cornely, 1987; Alexander, Kogan, & Nabukera, 2002; Kogan, Kotelchuck, Alexander, & Johnson, 1994). African American (AA) women enter PNC later than their white counterparts. According to the Centers for Disease Control and Prevention, in 2008, only 60.2% of AA women initiated PNC early compared to 76.7% of white women (Osterman, Martin, Mathews, & Hamilton, 2011). Factors shown to be associated with racial differences in later PNC initiation include socioeconomic position, age, parity, education, marital status, unplanned/unwanted pregnancies, substance abuse, and lack of transportation. However, controlling for these factors does not completely account for the racial disparities in PNC entry. Racism has been hypothesized as a barrier to PNC by researchers (Alexander, et al., 2002; Kogan, et al., 1994; Mayberry, Mili, & Ofili, 2000). To our knowledge no quantitative study has directly measured the effects of racism on the timing of PNC entry.

One reason why race may be a good predictor of health care utilization and health outcomes in the United States is due to its definition (Camara Phyllis Jones, 2001; Wyatt et al., 2003). In race-conscious societies, like the United States, race is a social construct that is assigned to an individual based on physical characteristics and represents a social classification which impacts people's daily life experiences, opportunities, and choices (Bonilla-Silva, 1997; C.P. Jones, 2000; Camara Phyllis Jones, 2001; Wyatt, et al., 2003). Therefore, race as recorded in epidemiologic studies is not only a proxy for cultural heritage, genes, and socioeconomic position; but also “measures a societally imposed identity and consequent exposure to societal constraints associated with that identity” (Wyatt, et al., 2003). These constraints have resulted in decreased access to better employment, services, and quality education; economic disadvantage; physical and social isolation; and negative stereotypes for AAs (Bonilla-Silva, 1997; S. P. Harrell, 2000; C.P. Jones, 2000; Camara Phyllis Jones, 2001). From this perspective, race in epidemiologic studies can be seen as an exposure to racism (Camara Phyllis Jones, 2001).

According to Clark, Anderson, Clark, and Williams (1999), racism is a stressor which may lead to heightened states of psychological and physiological stress responses. In turn, these stress responses can lead to deleterious health behaviors and health outcomes. Individual's psychological and physiological stress responses to racism-related stress can be mediated and/or modified by coping mechanisms, like denial, which can heighten or attenuate the level of stress perceived (Clark, et al., 1999; Dion, 2003).

While several studies have shown self-reported experiences of racism to be associated with adverse health outcomes and decreased utilization of health care for AAs (Ahmed, Mohammed, & Williams, 2007; Brown et al., 2000; N Krieger, 2000; Paradies, 2006; Williams & Mohammed, 2009; Williams, Yu, Jackson, & Anderson, 1997), there have been a few studies which indicate that denial of racism may put a person at an increased risk for an adverse health outcome (Caughy, O'Campo, & Muntaner, 2004; N. Krieger, 1990; N. Krieger & Sidney, 1996). Evidence suggests that individuals are more likely to deny racism directed at themselves (personal) than to deny racism directed towards their ethnic group, family, or close friends (group) (Caughy, et al., 2004; Crosby, 1984; Ruggiero, 1999; Taylor, Wright, Moghaddam, & Lalonde, 1990). This phenomenon is called personal/group discrimination discrepancy. Further research is needed that explores differences in health and health care outcomes between those who do and do not report personal and/or group experiences of racism, racial prejudice, and racial discrimination.

Study Purpose

The purpose of this paper was to investigate the relationship between racism and PNC initiation among a sample of pregnant AA women residing in Baltimore City, Maryland. Specifically, we examined the prevalence of reporting personal and group experiences of racism, and assessed whether denial or acknowledgement of racism experienced directly (personal) and/or thru friends, family, and other AAs (group) was associated with the trimester that women began PNC. In exploring this relationship we hypothesized that AA women who deny experiences of personal and group racism will be less likely to enter PNC later in their pregnancy. We thought that the act of denying past experiences with racism may facilitate the use of PNC because it removes racism as a barrier to service use based on preconceived expectations about unfair treatment within the medical care system.

Methods

Sample and Study Design

A hybrid prospective/retrospective cohort design was used to collect psychosocial, socio-demographic, medical, pregnancy outcome, and PNC utilization data via structured interview and medical chart review. Women were eligible for this study if they received PNC at one of three Johns Hopkins Medical Institution (JHMI) satellite clinics participating in the study or delivered at the main JHMI. Enrollment was further limited to women who self-identified as AA and resided in Baltimore City, Maryland since 90% of all JHMI deliveries were to AA women and 95% of women receiving care at the participating satellite clinics were residents of Baltimore City, Maryland. The preterm birth rate, median age, and years of education for women served by JHMI was 15%, 20 years, and 11.2 years, respectively. For women who participated in the study, the preterm birth rate was 16.4%, the median age was 22 years, and the median year of education was 11.

This study was approved by the institutional review board at Johns Hopkins University. Women were consented and enrolled prenatally if they received PNC (n=484) at one of the three participating satellite clinics. Women who had late, intermittent, or no PNC were consented and enrolled during their post-partum hospitalization (N=388) at JHMI. Women enrolled prenatally were interviewed twice: 1) 22–28 week's gestation and 2) post-partum hospitalization. Women enrolled postnatally were interviewed once during the post-partum hospitalization. Interview data was collected on a total of 872 women over a 41-month period (March 2001 - July 2004) with a 68% response rate. To reduce the potential of bias in study participants' interview responses as a result of race-of-interviewer effect (Davis, Couper, Janz, Caldwell, & Resnicow, 2010), all interviewers for this study were AA.

No statistically significant differences on key demographic variables were found between women enrolled prenatally or postnatally. Excluding multiple births (n = 24); losses to follow up (n = 16); and women with missing data on the exposure (n=27), denial of racism; and the outcome (n=43), PNC entry a total of 762 women were included in the analyses.

Measures

Denial of racism index—Based on methods by Caughy et al (2004), an overall denial of racism index was created using a total of 4 items from the Racism and Life Experiences Scales (RaLES) (S. Harrell, Merchant, MA, Young, SA, 1997) (This instrument and scale coding is available from the author upon request). During the in-person interview women were asked: a) how much have they personally experienced racism, racial prejudice, or racial discrimination during their lifetime; b) during the past year how much have they personally experienced racism, racial prejudice, or racial discrimination; c) how much racism has impacted the life experiences of people close to them (e.g., family, friends, co-workers, neighbors, etc.); and d) how much they thought racism affected the lives of other AAs. The first two questions reflected personal experiences of racism; the last two reflected group experiences of racism. For each of the 4 questions the response was a five-point Likert scale which ranged from 0 (Not at All) to 4 (Extremely).

The overall denial of racism index was created by counting the number of items to which each woman responded “not at all”. The index ranged from 0 to 4; a higher score reflected higher amounts of denial. Two subscales to reflect denial of personal and group racism were also created. Each of the subscales ranged from 0 to 2. Again, a higher score reflected a greater amount of denial. Internal reliability coefficients, estimated using Cronbach's α, were 0.73, 0.82 and 0.61 for the overall denial of racism index, the denial of personal racism, and the denial of group racism sub-indices, respectively.

Trimester of PNC Entry—To measure the timing of PNC initiation the following information was abstracted from medical records: date of last menstrual period, ultrasound estimated date of confinement, and date of first PNC visit. The month of pregnancy in which PNC began was calculated by subtracting the date of the first PNC visit from the date of the last menstrual period or the ultrasound date of confinement when the date of last menstrual period was missing. The month that PNC began was trichotomized by trimester of pregnancy: 1) ≤3 months, 2) 4-6 months, and 3) ≥7 months or No PNC. Women who entered PNC ≤ 3 months served as the reference group.

Confounding variables (covariates)—Potential confounding variables such as maternal age, education, marital status, parity, Medicaid status, having a high school degree or GED, and the number of close friends and relatives were collected from the maternal interview. Chronic medical complications, history of alcohol and drug use were not included as potential confounders since they were hypothesized to mediate the stress pathway between racism (a stressor) and healthcare utilization.

Socioeconomic position was measured using the Family Resource Scale (FRS), a 25-item instrument that assessed adequacy of time and money for essential (e.g., rent, clothing, food, etc.) and non-essential (e.g., time to socialize, money to buy things for yourself, money to save, etc.) resources (Dunst & Leet, 2006; Misra, O'Campo, & Strobino, 2001). Women rated adequacy of resources using a five-point Likert scale, ranging from “almost always” to “almost never”. Lower scores represented more adequate resources. Base on previous analysis (Misra, et al., 2001), the following subscales were examined: essential money and non-essential money. Standardized internal reliability coefficients for the FRS essential money and FRS non-essential money subscales were 0.83 and 0.80, respectively. Both

subscales were dichotomized; women in the bottom two quartiles (essential money <14 and non-essential money <18) were compared to women in the top two quartiles.

Analysis

Statistical analysis was conducted using SAS version 9.3. We conducted bivariate analysis using ANOVA to compare the mean and standard deviation (SD) for the overall denial of racism index and the two sub-indices by maternal characteristics of the analytic sample. Next, the distribution of women who entered PNC during each trimester was examined by each maternal characteristic using chi-square tests. To further assess the relationship between the trimester of PNC initiation and the overall denial of racism index, multinomial logistic regression with generalized logit model was used to estimate unadjusted odds ratios (OR) and adjusted odds ratios (AOR) as well as their corresponding 95% confidence intervals (95% CI) since the trimester of PNC entry was trichotomized and violated the proportional odds assumption. Finally, separate regression models were run to assess the relationship between each of the denial of racism sub-indices and the trimester of PNC entry.

Covariates included in the regression models were those that changed the coefficients for the denial of racism index and sub-indices >5% when entered into the regression model alone or in combination with other covariates. All potential confounding variables were assessed for missing values. Only items from the FRS scale (5.4% of 762) and Medicaid status (5.2% of 762) had missing data in the analytic sample. Expectation-maximization (EM) algorithm was used to impute missing values (Allison, 2001).

Results

Sample Characteristics

Maternal characteristics of the study participants are shown in Table 1. Of the 762 AA women included in the analysis, 56.2% of the women were enrolled prenatally at one of the three participating JHMI satellite clinics. Approximately, 87% of the women were <30 years old, a little less than half did not have a high school diploma or GED, and were married or cohabitating. With respect to family resources, only 45% reported that their essential needs were met.

Denial of Racism

The distribution for the overall denial of racism index and the two sub-indices are displayed in Table 1. A little less than a third of AA women in the analytic sample acknowledged racism on all four questions included in the overall denial of racism index. Almost half (47.2%) of the AA women denied 1-2 items of racism, while 22.4% denied 3-4 items. There were, also, differences in the reporting of personal and group racism experienced by AA women in this study. Sixty-eight percent acknowledged both items of group racism, while only 34.9% acknowledged both items of personal racism. Only 7.5% of AA women denied both items of group racism, while 42.3% denied both items of personal racism.

Overall, the mean score for the overall denial of racism index (Table 2) was highest among women who were < 20 years old, not married or cohabitating, had < high school education, and had more financial resources for non-essential activities. In regards to the two sub-indices, women were less likely to report experiences of personal racism or group racism if they were younger, had less education, but had more non-essential financial resources. However, the sub-indices differed by marital status. Women who were single denied more items on the personal racism sub-index ($p<0.01$), this was not true for the group racism sub-index ($p=0.14$). No statistically significant differences were found in the mean number of

items for either sub-index when examined by the timing of recruitment into the study, having essential resources, parity, Medicaid status, and the number of close friends or family.

Prenatal Care Entry

Of the 762 AA women 41.1% entered during the 1st trimester, 41.9% during the 2nd trimester, and 17.1% began PNC during their 3rd trimester of pregnancy or had no recorded PNC visit (9.3%). Among the 691 women who initiated PNC, the mean month that PNC began was 4.1 (SD=1.7). The trimester of entry into PNC differed significantly (Table 3) by timing of recruitment ($p<0.01$), maternal age ($p<0.01$), years of education ($p=0.02$), degree ($p<0.01$), and marital status ($p<0.01$). There was no significant difference in PNC by parity, Medicaid status, number of close friends or family, or financial resources.

Denial of Racism and Trimester of Prenatal Care Entry

To examine the relationship between denial of racism and the PNC initiation we used multinomial logistic regression to calculate crude ORs and AORs and 95%CIs (Table 4). PNC entry during the 1st trimester served as the reference group for the outcome in all analyses. In the unadjusted model the OR for one unit increase in the overall denial of racism index was 1.20 (95% CI: 1.02-1.42) for entering PNC during the 3rd trimester/no PNC compared to AA women who entered during the 1st trimester of pregnancy. No significant association was found when comparing women who entered PNC during 2nd trimester to those who entered during the 1st trimester (OR=1.08, 95%CI: 0.95-1.23). After adjustment for maternal age, education, essential money, marital status, parity, Medicaid Status, and the number of close friends and family; a moderately significant difference ($p=0.05$) remained between women who entered during the 3rd trimester or had no PNC when compared to the PNC referent group. In the adjusted model, the AOR for one unit increase in the overall denial or racism index was 1.19 (95%CI: 1.00-1.41). No significant association was found between the overall denial of racism and PNC initiation after adjustment when comparing women who entered PNC during the 2nd trimesters to those who entered during the 1st trimester.

In regards to the denial of group racism sub-index, both the unadjusted ($p<0.01$) and adjusted ($p<0.01$) models showed there was a statistically significant relationship between the trimester in which PNC began and the sub-index. After controlling for maternal age, education, essential money, marital status, parity, Medicaid Status, and the number of close friends and family the AOR for one unit increase in the denial of group racism was 1.64 (95% CI: 1.18-2.28) for entering PNC during the 3rd trimester/no PNC compared to AA women who entered during the 1st trimester of pregnancy. With respect to the denial of personal racism sub-index unadjusted and adjusted analyses showed no statistically significant associations between the likelihood of entering PNC after the 1st trimester and the sub-index.

Discussion

In our study, we explored the prevalence of denial of experiences of racism, both personal and group, as well as the relationship between racism and PNC initiation. Our results showed that AA women in our sample were more likely to acknowledge racism impacts the lives of their family, close friends and other AAs than to acknowledge racism impact their lives through personal experiences. We also showed women who denied racism, and specifically group experiences of racism, were most likely to enter PNC during the 3rd trimester or to not have PNC at all. Acknowledgement or denial that racism personally

affected women was not significantly associated with the timing of when women began their PNC.

The fact that we found evidence of the personal/group discrepancy in our sample suggests that reports of experiences of racism, racial prejudice, or racial discrimination may be underestimated in research that only assesses perceived racism experienced directly by an individual. This statement is corroborated by the fact that data from the Multi-City Study of Urban Inequality, which surveyed 8000 people and over 3000 employers, suggested that greater than 90% of AAs experience racial discrimination but do not self-report (Darity Jr, 2003). According to Harrell's (2000) conceptualization of racism-related stress, racism can exert its influence on an individual not only through direct daily life experiences and microstressors but also via experiences of their ethnic group through vicarious racism, collective racism, and intergenerational transmission of group trauma. Thus, using a measure of group racism in place or in addition to a personal measure may be more informative than the use of a personal measure alone when investigating the relationship between and pathways that connect racism and health.

Our findings examining the relationship between denial of racism and PNC fall in line with the work of Caughy et al (2004) and the early work of Krieger (1990), and Krieger and Sidney (1996) who showed denial of interpersonal racism can be a barrier to a positive outcomes. Specifically, Caughy et al (2004) found that AA parents who denied experiences of both personal and group racism had children with higher rates of behavioral problems. Krieger's (1990) study, which focused on individual-level interpersonal racism in a sample of Whites and AAs residing in Alameda County, found that women who reported no experiences of racial discrimination had the greatest risk of high blood pressure. The fact that our results showed a negative association between PNC initiation, a measure of access to health care, and the number of racism items AA women did not report experiencing suggests that women may not be recognizing covert racism when subjected to it or that they engage in cognitive dissonance or denial (Clark, et al., 1999; Darity Jr, 2003; Dion, 2003).

Individuals may suppress experiences or not report past experiences of racism in order to maintain a belief that the world plays fair or to prevent themselves from feeling powerless or vulnerable (Dion, 2003; S. P. Harrell, 2000). From this vantage point, denial may be used as a buffer which allows individuals to conserve mental and emotional well-being. However, over one's life course this mechanism may put women at equal or even greater risk for poor mental and physical health outcomes because they may not have developed positive coping strategies that would diminish the deleterious consequences of discrimination, leaving them vulnerable to potential exclusion from needed services. This may be one reason why women who acknowledge group experiences of racism entered PNC earlier than women who denied group experiences of racism.

While this study has several strengths, such as our hybrid prospective/retrospective design; there are a few limitations that should be discussed. First, our denial of group racism sub-index is limited due to a low Cronbach's α value (0.61) in this analysis. This may be due to the fact that our sub-index consisted of only two items. Ideally, future research investigating the impact of individuals using denial of racism as a coping mechanism should focus on improving the reliability of this measure by developing and including more items. While the Cronbach's α value was slightly greater than 0.60, it does indicate some measure of reliability for this sample. Second, while we ascertained the date of women's PNC visits from the medical record (the current standard of practice for the 2003 Revision of the U.S. Birth Certificate), we do acknowledge the possibility that some women's medical records at JHMI may not have been captured if a woman switched PNC providers. However, few PNC

providers in this community, other than JHMI providers, accepted women with Medicaid or no insurance which characterize the vast majority of AA women in this study.

Implications for Practice and Policy

A number of studies have demonstrated racism in the delivery of medical care to non-pregnant adults in the U.S (Ahmed, et al., 2007; Casagrande, Gary, LaVeist, Gaskin, & Cooper, 2007; Hausmann, Jeong, Bost, & Ibrahim, 2008; Richman, Kohn-Wood, & Williams, 2007). This study contributes to the study of discrimination and health services in a unique manner by extending that body of literature to pregnant women and entry into PNC. We found that women who denied racism affects the people close to them and other AAs were more likely to enter PNC after their 6th month of pregnancy or not to have PNC at all. This suggests that delayed access to or no PNC could be rooted in the avoidance of racialized experiences among less empowered women. Pregnant women, who feel less empowered, may also have a low health locus of control. Consequently, they may be less likely to engage in a health care system that at times may seem daunting. More outreach to this population both within the community and in the clinic by providers may be required to encourage earlier PNC. Health communication and social marketing strategies that deliver messages of empowerment may be needed to bridge the gap between PNC providers and women who may be avoiding the prenatal health care system due to past experiences of racism at all levels (institutional, interpersonal, and internalized) during their life course.

Further research also is needed to elucidate the complex relationship between perceived experiences of racism during one's life-course prior to becoming pregnant and PNC initiation and utilization. Areas of explorations should include examining experiences of racism occurring in health care settings in addition to racism experienced in other settings. Additionally, research is needed to further explore association between racism and PNC (initiation, utilization, and quality) within the context of predisposing, need, and enabling factors such as medical mistrust, depression, locus of control, and maladaptive health behaviors (e.g, alcohol, drug use, etc.) that are associated with stress.

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Table 1

Distribution of Denial of Racism Indices and Maternal Characteristics for Sample (n=762), Baltimore City, Maryland, 2001-2004.

Index	Total Sample
Overall Index of Denial	
0 All items Acknowledged	230 (30.2)
1 item denied	165 (21.7)
2 items denied	194 (25.5)
3 items denied	125 (16.4)
4 items denied	48 (6.4)
Denial of Personal Sub-index	
0 All items Acknowledged	266 (34.9)
1 item denied	174 (22.8)
2 items denied	322 (42.3)
Denial of Group Sub-index	
0 All items Acknowledged	517 (67.9)
1 item denied	188 (24.7)
2 items denied	57 (7.5)
Recruitment	
Prenatal	428 (56.2)
Postpartum	334 (43.8)
Maternal Age (years)	
< 20	215 (28.2)
20-29	446 (58.5)
≥ 30	101 (13.3)
Maternal Education	
< 12 years	104 (13.6)
12 years	284 (37.3)
>12 years	374 (49.1)
Degree	
Neither	368 (48.3)
GED/Diploma	394 (51.7)
Family Resource Scale:	
Essential Money	
≥14 (Less)	419 (55.0)
<14 (More)	343 (45.0)
Non-Essential Money	
≥18 (Less)	393 (51.6)
<18 (More)	369 (48.4)
Marital Status	
Single/Separated/Divorced	417(54.7)
Married/Cohabitating	345 (45.3)

Index	Total Sample
No. of Close Friends and Family	
0-1	
2 -5	103 (13.5)
≥6	473 (62.1)
	186 (24.4)
Parity	
Nulliparous	272 (35.8)
Primiparous	205 (27.0)
≥ 2 Live Births	283 (37.2)
Medicaid	
Yes	489 (64.2)
No	273 (35.8)

Abbreviations: No., Number.

Table 2

Denial of Racism Indices by Maternal Characteristics of the Sample (N=762), Baltimore City, Maryland, 2001-2004.

Characteristics	Total Sample N (%)	Overall Denial of Racism Index (Range: 0-4)		Denial of Person Racism Sub-Index (Range:0-2)		Denial of Group Racism Sub-Index (Range:0-2)	
		Mean (SD)	p-value*	Mean (SD)	p-value*	Mean (SD)	p-value*
Recruitment							
Prenatal	428 (56.2)	1.4 (1.2)	0.34	1.1 (0.9)	0.65	0.4 (0.6)	0.21
Postpartum	334 (43.8)	1.5 (1.3)		1.1 (0.9)		0.4 (0.6)	
Maternal Age (years)							
< 20	215 (28.2)	1.7 (1.3)		1.2 (0.9)		0.5 (0.7)	
			<0.01		<0.01		<0.01
20-29	446 (58.5)	1.4 (1.2)		1.1 (0.9)		0.4 (0.6)	
≥ 30	101 (13.3)	1.1 (1.1)		0.9 (0.9)		0.3 (0.5)	
Maternal Education							
< 12 years	104 (13.6)	2.0 (1.1)		1.4 (0.8)	<0.01	0.6 (0.7)	<0.01
12 years	284 (37.3)	1.7 (1.3)	<0.01	1.2 (0.9)		0.5 (0.7)	
>12 years	374 (49.1)	1.2 (1.2)		0.9 (0.9)		0.3 (0.6)	
Degree							
Neither	368 (48.3)	1.8 (1.2)	<0.01	1.3 (0.8)	<0.01	0.5 (0.7)	<0.01
GED/Diploma	394 (51.7)	1.1 (1.2)		0.9 (0.9)		0.3 (0.5)	
Family Resource Scale:							
Essential Money							
≥14 (Less)	419 (55.0)	1.5 (1.3)	0.13	1.1 (0.9)	0.21	0.4 (0.6)	0.20
<14 (More)	343 (45.0)	1.4 (1.2)		1.0 (0.9)		0.4 (0.6)	
Non-Essential Money							
≥18 (Less)	393 (51.6)	1.4 (1.2)	0.01	1.0 (0.9)	0.03	0.3 (0.6)	0.03
<18 (More)	369 (48.4)	1.6 (1.3)		1.1 (0.9)		0.4 (0.7)	
Marital Status							
Single/Separated/Divorced	417(54.7)	1.6 (1.3)	<0.01	1.2 (0.9)	<0.01	0.4 (0.6)	0.14
Married/Cohabitating	345 (45.3)	1.3 (1.2)		1.0 (0.9)		0.4 (0.7)	
No. of Close Friends and Family							

Characteristics	Total Sample N (%)	Overall Denial of Racism Index (Range: 0-4)		Denial of Person Racism Sub-Index (Range:0-2)		Denial of Group Racism Sub-Index (Range:0-2)	
		Mean (SD)	p-value*	Mean (SD)	p-value*	Mean (SD)	p-value*
0-1							
2 -5	103 (13.5)	1.6 (1.3)	0.13	1.1 (0.9)	0.39	0.5 (0.7)	0.10
≥6	473 (62.1)	1.5 (1.3)		1.1 (0.9)		0.4 (0.6)	
	186 (24.4)	1.3 (1.2)		1.0 (0.9)		0.3 (0.6)	
Parity							
Nulliparous	272 (35.8)	1.5 (1.3)		1.1 (0.9)		0.4 (0.7)	
			0.57		0.50		0.89
Primiparous	205 (27.0)	1.4 (1.2)		1.0 (0.9)		0.4 (0.6)	
≥ 2 Live Births	283 (37.2)	1.4 (1.2)		1.0 (0.9)		0.4 (0.6)	
Medicaid							
Yes	489 (64.2)	1.5 (1.2)	0.66	1.0 (0.9)	0.39	1.1 (0.9)	0.38
No	273 (35.8)	1.4 (1.2)		1.1 (0.9)		1.0 (0.9)	

Abbreviations: No., Number; SD, Standard Deviation.

Note:

*p-values were calculated using Analysis of Variance (ANOVA)

Table 3

Distribution of Prenatal Care Entry of Sample (N=762) by Maternal Characteristics and Denial of Racism Index, Baltimore City, Maryland, 2001-2004.

	Prenatal Care Entry			
Characteristics	**<3 months**	**≤ 6months N (%)**	**≥7 or No PNC N (%)**	**p-value***
Recruitment				
Prenatal	200 (63.9)	186 (58.3)	42 (32.3)	<0.01
Postpartum	113 (36.1)	133 (41.7)	88 (67.7)	
Maternal Age (years)				
< 20	73 (23.3)	111 (34.8)	31 (23.9)	
20-29	195 (62.3)	175 (54.9)	76 (58.5)	<0.01
≥ 30	45 (14.4)	33 (10.3)	23 (17.7)	
Maternal Education				
< 12 years	38 (12.1)	52 (16.3)	14 (10.7)	
12 years	103 (32.9)	133 (41.7)	48 (36.9)	0.02
>12 years	172 (55.0)	134 (42.0)	68 (52.3)	
Degree				
Neither	132 (42.2)	174 (54.5)	62 (47.7)	<0.01
GED/Diploma	181 (57.8)	145 (45.5)	68 (39.2)	
Family Resource Scale:				
Essential Money				
≥14 (Less)	171 (54.6)	169 (53.0)	79 (60.8)	0.32
<14 (More)	142 (45.4)	150 (47.0)	51 (61.6)	
Non-Essential Money				
≥18 (Less)	157 (50.2)	168 (52.7)	68 (52.3)	0.81
<18 (More)	156 (49.8)	151 (47.3)	62 (47.7)	
Marital Status				
Single/Separated/Divorced	170 (54.4)	131 (41.1)	44 (33.9)	<0.01
Married/Cohabitating	143 (45.7)	188 (58.9)	86 (66.2)	
No. of Close Friends and Family				
0-1	44 (14.1)	39 (12.2)	20 (15.4)	0.30
2 -5	187 (59.7)	212 (66.5)	74 (57.9)	
≥6	82 (26.2)	68 (21.3)	36 (27.7)	
Parity				
Nulliparous	116 (37.1)	122 (38.2)	35 (26.5)	0.10
Primiparous	81 (25.8)	89 (27.9)	35 (25.7)	
≥ 2 Live Births	116 (37.1)	108 (33.9)	65 (47.8)	
Medicaid				
Yes	195 (62.3)	210 (65.8)	84 (64.6)	0.65
No	118 (37.7)	109 (34.2)	46 (35.4)	
	Mean (SD)	Mean (SD)	Mean (SD)	p-value†
Overall Denial of Racism Index	1.4 (1.2)	1.5 (1.2)	1.7 (1.3)	0.08

	Prenatal Care Entry			
Characteristics	**<3 months**	**≤ 6months N (%)**	**≥7 or No PNC N (%)**	**p-value***
Denial of Personal Racism Index	1.0 (0.9)	1.1 (0.9)	1.1 (0.9)	0.61
Denial of Group Racism Index	0.3 (0.6)	0.4 (0.6)	0.5 (0.7)	<0.01

Abbreviation: PNC, Prenatal Care; No., Number.

Note.

*p-value was calculated using X^2 test.

†p-value was calculated using Analysis of Variance (ANOVA).

Table 4

Crude and Adjusted Odds Ratios for Trimester of Prenatal Care Entry.

	PNC Entry 4-6 months [reference: ≤3 months]		PNC Entry ≥7 month or No PNC [reference: ≤3 months]	
Main Effects	**OR (95% CI)**	**AOR* (95% CI)**	**OR (95% CI)**	**AOR* (95% CI)**
Overall Denial of Racism Index	1.08 (0.95-1.23)	1.00 (0.87-1.14)	**1.20 (1.02-1.42)**	**1.19 (1.00-1.41)**
Denial of Personal Racism Index	1.05 (0.88-1.26)	0.95(0.78-1.14)	1.12 (0.89-1.42)	1.08 (0.84-1.38)
Denial of Group Racism Index	1.24 (0.96-1.61)	1.12 (0.85-1.47)	**1.64 (1.20-2.25)**	**1.64 (1.18-2.28)**

Abbreviation: OR, odds ratio; *AOR*, adjusted odds ratio; *CI*, confidence interval

Note.

*Multinomial logistic regression model was adjusted for maternal age, education, essential money, marital status, parity, Medicaid status, and the number of close friends and family.