

400 Years of Reasons: Medical-Mistrust by the Black-American Population (and its Adverse Effect on Healthcare Outcomes and Cost to Society)

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Received: September 03, 2020; **Published:** October 15, 2020

DOI: 10.31080/ecec.2020.04.00380

Abstract

The health status for Black-Americans is worse than other ethnic groups due to less seeking of medical care. Many Black-Americans refuse to seek medical care due to their mistrust of the medical establishment. Cultural-mistrust, which perpetuates medical-mistrust, was used as the theoretical framework for this study. The purpose of this quantitative, hierarchical multiple-regression research was to investigate the foundations of medical-mistrust by the Black-American population, and elucidate its connection to the underutilization of healthcare services, resulting in inferior outcomes and overall increased healthcare costs and burden to society. The study was also intended to determine if age and medical-mistrust adversely affect healthcare utilization by Black-Americans when controlling for gender, income, insurance status, and education level, using the Medical Mistrust Index and Group-Based Medical Mistrust Scale as data collection tools.

Results from 148 surveys collected from Black men (n = 57) and women (n = 91) in Orlando, Florida, USA revealed that there is a negative significant relationship between medical-mistrust and healthcare utilization (r = -.023) when controlling for gender, income, insurance status, and education level. Further, it was found that a non-significant bivariate relationship exists between age (r = .032) and healthcare utilization among Black-Americans [1,2]. However, this study's results indicate that Black-Americans of all age groups may harbor more distrust than mistrust of healthcare. Thus, this research adds further knowledge to medical-mistrust as a cause for decreased healthcare utilization by the Black-American population. It may also aid healthcare professionals with ways to decrease health disparities between Black-Americans and other ethnic-American groups, bringing about the necessary positive social change and medical assistance Black-Americans need to overcome the underutilization of healthcare services due to medical-mistrust.

Nowhere in the medical profession is trust and mutual understanding more essential and consequential than in emergency medicine and critical care settings where immediate actions and confident decisions might mean the difference between life or death. Thus, emergency medicine and critical care personnel should be more cognizant and sensitive to the long-standing and persistent medical-mistrust embedded in the psyche of specific members of the Black-American population who may present for treatment or be guardians of those with an emergency or critical care condition.

Keywords: *Black-American; Biopsychosocial; Cultural Mistrust; Cultural Paranoia; Racism; Tuskegee*

Abbreviations

CDC: Centers for Disease Control and Prevention; NIH: National Institute of Health; PPACA: Patient Protection and Affordable Care Act; PRMHC: Perception of Racism and Mistrust in Healthcare; QoL: Quantity of Life

Introduction

The basis for the underutilization of medical services

Racial minorities underutilize medical care [3]. This underutilization has caused health disparities and increased levels of untoward health outcomes [4,5]. There are numerous reasons for the underutilization of medical services among racial minorities: poverty, racism, medical discrimination, economic hardship, and lack of access [6–8]. Thus, the underutilization of health services has resulted in a higher incidence of disease, death, and morbidity for racial minorities [9,10]. The need to reduce health disparities in racial minorities continues to set a precedent in the medical community [11]. As an ethnic group, Black-Americans seek less healthcare than other racial minorities [12].

Consequently, Black-Americans have more significant health disparities than other ethnic groups in the United States [13]. High infant mortality, increased disability, morbidity, and shorter life-expectancies adversely affect the Black-American community disproportionately [14–16]. According to the Center for Disease Control and Prevention (2011), Black-American men are more at risk for prostate cancer than White-American men (226.0/100,000 versus 145.1/100,000 cases) [9]. Late diagnosis and lack of access to healthcare are partly responsible for the higher incidence [13,17]. Health disparities can lead to a lower quantity of life (QoL), decreased QoL, and death [18,19].

Black-Americans linger behind other ethnic groups when seeking medical care [20]. Barriers—such as lack of access, prejudices, poor education, unemployment, stereotyping by healthcare professionals, poverty, distrust in physicians, socioeconomic environment, and discrimination [21]—are known to deter Black-Americans from seeking healthcare [22–25]. Also, these barriers tend to cause an increase in morbidity and mortality [17]. Past medical injustices to Blacks, such as the Cincinnati Radiation Experiment and Tuskegee Syphilis Study, have fostered a mistrust of the medical community [26–30]. Distrust of healthcare providers presents a new barrier for Black-Americans seeking health care access.

According to Brandon, *et al.* (2005), revelations of the Tuskegee Syphilis Study's abuses have increased psychological distrust for the medical community by Black-Americans [31]. Grier and Cobbs (1968) first theorized that Blacks built a mistrust of Whites due to past events of discrimination, dating to slavery [32]. This mistrust may partly be responsible for a decrease in healthcare-seeking behaviors among Black-Americans [33,34]. Distrust may also lead to increasing health disparities for a marginalized population. Thus, the Black-American community's health disparity problem is believed to be facilitated by medical-mistrust [35].

The consequences of health disparities

Black-American health status has improved over the last fifty years. Rates of diseases and cancer have decreased while life expectancy has increased [10,16]. However, the Black-American patient population continues to have the highest health-related issues in the United States [3]. Research in the Black-American population has shown a higher rate of illnesses compared to White-Americans [9,10,15]. This rate difference can partly explain a lower rate of healthcare-seeking behavior within the Black-American population [36]. Institutional barriers set up within society have served to deter healthcare-seeking behaviors and trust in the healthcare industry by Black-Americans [37]. These barriers include but are not limited to racism, poor education, unemployment, lack of access, and economic adversity [23].

Barriers to healthcare access cause a considerable increase in health disparities for Black-Americans [17,38]. Even when barriers

are not present, Black-Americans still do not seek medical care at a rate that is equal to other ethnic groups [39]. Health disparities have translated into less favorable human productivity, social inequity, and higher healthcare cost [40,41].

Bridging the healthcare-disparity gap

According to Thomas (2001), the first step in decreasing health disparities among Blacks is to facilitate trust in the medical community [42]. However, past inhumane experiments, racism [43], physician biases [44], and discrimination has caused Black-Americans to develop defensive tactics that serve as shielding mechanisms [42,45–48]. Specifically, Black-Americans have developed a defensive mechanism called “cultural mistrust” [36,40,49–51]. Cultural mistrust, according to Terrell and Terrell (1981), occurs when Blacks have “the tendency to be suspicious of Whites” [51]. Distrust causes an individual to avoid an untoward situation [37]. The tendency to distrust and mistrust Whites has also been conveyed to the medical community related to healthcare-seeking behaviors [8,52,53].

Discussion

Historical development of medical-mistrust by the Black-American population

The origin of medical-mistrust (1619–1863)

It has been documented that the first slave arrived in Virginia in 1619 [54]. People of African descent arriving in North America had no human rights, including healthcare access. The slave-owner determined the African captive’s right to healthcare. Hence, the liberties of people of African descent were controlled by White slave-owners. According to Washington (2006), slaves were “powerless and invisible” [55(p29)]. Society had no interest in the health and safety of slaves. As such, a “slave health subsystem” was created [56]. This “slave health subsystem” had its origins in the seventeenth century and laid the groundwork for health disparities and abuses for future generations of Black-Americans. The “slave health subsystem” consisted of human experimentation and limited access to healthcare.

During slavery, White slave-owners lived under two distinct dichotomies, relating to slave health. On the one hand, the slave-owner had to keep the slave healthy enough to recover the initial cost investment (in procuring the slave) and extract labor from the worker. On the other hand, the slave-owner did not want to invest additional monies into a slave [55]. The result was limited healthcare access for the slave. Insurance companies mandated most of the healthcare received by slaves. In order to insure a slave (a “property”), the slave-owner had to have a physician perform a physical examination, state any hazardous work assignments, and provide proof that the slave had been treated for any medical conditions [55,57]. Thus, ill Blacks were commonly not insured. This mentality resulted in the early loss of life for many Black slaves in North America.

Medical abuses were common during this antebellum period. It was not uncommon for slaves to be used as “guinea pigs” for medical advancement [29,58,59]. Dr. L. Marion Sims performed painful non-anesthetic vesicovaginal fistulas and gynecologic surgeries on three slave women as he learned to perfect the procedure [60]. In all, he operated on the women more than thirty times before correctly developing the technique.

A physician, Thomas Hamilton, conducted brutal experiments on a male slave to determine heat-stroke effects. His goal was to find a way to make slaves work long days in the sun. Hamilton would make the male slave sit naked in a pit heated to temperatures over 100 degrees Fahrenheit. Only the man’s head was left above-ground. At various intervals, the doctor tested medications to determine if any would help the slave withstand the heat. The subject experienced several episodes of unconsciousness and critical heat-stroke [29].

Physical abuse, in the form of whippings, was also viewed as legitimate medical treatment. Under a physician order, a whipping was commonly prescribed as “medicine” for malingering slaves with illnesses [55]. Thus, whipping became an additional health threat to Blacks. Beatings often lead to multiple lacerations, blood loss, muscle injury, internal organ damage, shock, and death [60]. Thus, slaves

often resisted any treatment or care from White physicians [35,60], which served to sever the patient-doctor relationship and set the grounds for mistrust in medical care [39,56]. Slaves often avoided help from doctors by denying illness and discarding medications [55].

Consequently, many slaves resorted to self-healing practices learned in Africa before they arrived in North America. African healing methods included herbs, roots, well-being philosophies, asking for ancestral spirit help, and spiritual prayer [45–47,61]. These practices are still commonly used today by Black-Americans to avoid western medicine [47].

Overall, Blacks of this period were not able to protect themselves from abuses by medical professionals. The method commonly used by slaves to avoid pain and suffering of experimental medicine was the denial of illness. As a result, mistrust in Western medicine was established in the Black population. Distrust in medicine had been established and became firmly rooted. Blacks could not avoid untoward harmful situations. The end of slavery would moderately change this disparaging dynamic.

Emancipation and limited healthcare access (1864–1965)

For the first time in American history, Blacks were no longer the property of White owners. However, little changed, relating to healthcare access and exploitation. Blacks now had the option of decreasing their chances of medical torture through avoidance. Blacks had come to associate medicine with punishment, degradation, pain, and bodily injury [55]. On the whole, to avoid any untoward situation, Blacks used distrust of the medical community as a shielding mechanism [37]. Unlike slavery, Blacks now had the freedom to choose healthcare usage. However, reports of hospital dissections, discrimination, and experimentation on unwilling Black patients continued throughout the country. Also, the limited amount of healthcare received by Blacks was inferior to Whites. Conditions in predominately Black hospitals were unsanitary, poorly medically-equipped, and produced inferior outcomes [35]. Thus, this period was marked by marginal healthcare access, exploitation studies, eugenics, and health discrimination.

Discrimination and marginal healthcare access

In 1863, the United States ended slavery. The 13th, 14th, and 15th Amendments were ratified to include political and civil rights for the emancipated slaves [57]. Blacks had to now care for themselves. Although healthcare access was limited under slavery, freedom offered no such access. Many white doctors refused to see Black patients. Healthcare discrimination against Blacks was widespread [56]. Financial payment for services was yet another barrier. Blacks preferred to self-treat or utilized Black health professionals, such as midwives, nurses, or doctors [8]. However, this preference proved to be challenging. According to Baker, *et al.* (2009), only a few free Blacks had graduated from medical school during the antebellum period. There were only 909 Black physicians in the United States by 1890 for 7.5 million Black-Americans [57].

Further, many hospitals did not admit Blacks because of “Black Codes” and Jim Crow laws. Thus, Blacks were restricted to individual health institutions, clinics, or Freedmen hospitals [56]. However, these health institutions were often un-funded, poorly run, and offered few successful outcomes [40,56]. They offered little more than shelter, and prescribed dangerous, unproven treatments [35,55]. Patients risked unnecessary surgery and involuntary treatments [55]. Black-Americans learned to distrust and avoided these institutions [4,29,62].

Consequently, medical-mistrust and self-healing became the norm of healthcare practice within the Black community [46,47,62,63]. The results of these practices were poor health, terrible outcomes, and disparities [18,20,64]. This spoiled relationship between the medical community and Black-Americans would continue throughout the late-19th-century until the 1960s. In the 1960s, the United States government began to intervene in human and civil rights discrimination.

It was not until the 1965 passage of the Civil Rights Acts that widespread hospital discrimination against Black-Americans subsided.

Title VI of the Civil Rights Act (1965) forbade discrimination in any facility funded by the government [65]. Hospitals receiving government Hill-Burton (“separate-but-equal”) funds could no longer use race to select doctors. Also, the segregation of patients based on race was outlawed. Black-Americans could now be treated at previously segregated White institutions. The short-term goal was to increase healthcare access for all and decrease health disparities [66]. The result was a moderate increase in healthcare access but a continued medical-mistrust of healthcare by Black-Americans [63,67]. Another major government health initiative was the establishment of Medicare and Medicaid in 1965. Like the Civil Rights Act, these programs leveled the healthcare-access field. The underprivileged and elderly (many of whom were Black) now had equal access to medical care. With increased healthcare access and laws protecting against discrimination, why do Black-Americans continue to mistrust medical care? According to Gamble (1997), past exploitations in medicine continue to play a large role in Black distrust of healthcare [29].

Exploitation studies and eugenic experiments

The Tuskegee Syphilis Study may be one of the most infamous post-slavery examples of medical abuse against Black-Americans in modern times. The study was conducted by the United States Public Health Service from 1932 to 1972 in Macon County, Alabama. Black men (N = 399) with syphilis were denied the treatment of penicillin. The study’s purpose was to learn the effects of long-term untreated syphilis in Blacks [31,68]. Consequently, participants were not informed of their disease [69]. As a result, a least 100 men died due to untreated syphilis or complications [28].

Several studies have examined the effects of the Tuskegee Syphilis Study on the Black medical-mistrust psyche. Brandon., *et al.* (2005) conducted a phone survey of Blacks (N = 277) and Whites (N = 101) to determine racial differences in the knowledge of the Tuskegee Syphilis Study, and how it contributed to medical-mistrust. The results revealed that being of the Black race was a significant indicator of medical-mistrust when controlling for demographics like awareness of the Tuskegee study, insurance status, and income ($p < 0.05$) [31].

Likewise, Thomas (1991) explored whether the legacy of the Tuskegee Syphilis Study would have any implications on HIV- and AIDS-risk education programs in the Black community [42]. Thomas (1991) showed that, “The continuing legacy of the Tuskegee Syphilis Study has contributed to Blacks’ belief that genocide is possible and that public health authorities cannot be trusted” [42(p1499)]. Thus, the Tuskegee Syphilis Study created a sense of suspicion and distrust in the Black community for medical care. Further, it may have also hampered the HIV educational efforts in the Black community due to suspicions of conspiracy concerning HIV transmission [30,70].

Freimuth., *et al.* (2001) showed the effects of the Tuskegee Syphilis Study on research recruits. Seven focus-groups from four cities (Chicago, Illinois, Washington, DC, Los Angeles, California, and Atlanta, Georgia) were assessed on knowledge and attitudes towards medical research, knowledge of the Tuskegee Syphilis Study, and reactions to the Home Box Office production *Miss Evers’ Boys* (a fictionalized version of the Tuskegee study) [28]. A total of 60 Blacks entered the study. The examiners indicated that the legacy of the Tuskegee Syphilis Study provided Blacks with enough justification to not participate in research [28]. Like the Thomas (1991) study, participants in this study expressed suspicion that HIV/AIDS is an experimental virus deliberately given to African-descent people to cause them harm [28,71,72].

McCallum., *et al.* (2006) performed a meta-analysis of all studies that measured the effects of the Tuskegee Syphilis Study on Blacks’ views on trust in healthcare. The analysis included all qualitative and quantitative studies up to 2006. The results from the eight studies (four qualitative and four quantitative) revealed that overall, Black-Americans are still influenced by past inhumane medical events. These events have caused Black-Americans to formulate an egregious collection of shared beliefs and attitudes towards the medical community [73].

Corbie-Smith, *et al.* (1999) conducted a study with 33 Black participants who were asked questions about the Tuskegee Syphilis Study to ascertain their understanding or misunderstanding about the experiment. It also concluded that Black-Americans' mistrust of the medical community is based on past injustices, and thus serves as a significant barrier to seeking healthcare. Many of the participants felt the government and medical community used Blacks as "guinea pigs" [74]. Hence, many Black-Americans prefer not to participate in research studies. However, being a guinea pig was not the only reason for not participating in research. Other reasons included inconvenience, insufficient information given, fear, concerns about physician integrity, failure to see any need, and Black-Americans' failure to benefit from scientific knowledge advancement because of racial discrimination [74].

Further, it was shown that many Black-Americans believed that informed consent is a safeguard waiver from litigation to protect the doctor or experimenter. The consent-misunderstanding by Black-Americans has served as an additional reason to not partake in research. Additionally, Corbie-Smith, *et al.* (1999) were able to illustrate that the Tuskegee Syphilis Study validated what many Black-Americans believe is a devaluing of their life compared to others. Moreover, because the study was a government-sponsored project, national officials cannot be trusted [74]. Therefore, Black-Americans prefer to not participate in research because of the historical events of racism within the medical community. Lastly, this study also confirmed what other studies had found: the belief that HIV was created by the government to destroy Blacks [74].

Gamble (1997) also stated: "The Tuskegee Syphilis Study is the most important reason why many Blacks distrust the institutions of medicine and public health" [29 (p1773)]. Although not all-inclusive, Gamble (1997) indicated that exploitation, fear of genocide, paranoia, and the legacy of the Tuskegee Syphilis Study all play an active part in increasing the level of distrust of healthcare by Black-Americans [29]. Overall, the Tuskegee Syphilis Study served to strengthen the medical community's distrust that has existed since the time of slavery [69]. Most of the research done on the Tuskegee Syphilis Study dealt with the damage it caused the medical community from a trust perspective.

However, none of the studies explore age-differentiation among Black-Americans, relating to medical-mistrust. There is the possibility that younger Black-Americans are less aware of the historical background behind the Tuskegee Syphilis Study. Therefore, it can be hypothesized that younger Black-Americans may harbor less medical-mistrust for healthcare than older Black-Americans. Thus, the need to determine the level of medical-mistrust in the Black population, relating to age-stratification is warranted. Conversely, the Tuskegee Syphilis Study is not all-inclusive in the medical community's continuum of exploitation studies.

Other exploitation studies may also have a part in contributing to the fear of healthcare. Common knowledge of medical exploitations, such as unauthorized medical dissections, and The Bell Curve Study, involving unconsented vaccinations and eugenics, hurt the credibility of the medical community [75]. The legacy of overt racism and abuses in eugenic programs against Blacks have further reinforced mistrust and distrust in healthcare [76].

During the early part of the 20th-century, eugenics, social control, and reproductive limitation became the standards to preserve White supremacy and the White race's purity. Blacks and other ethnic groups were viewed as inferior and undesirable. As a result, according to Byrd and Clayton (2000), eugenics appealed to the White psyche for the following reasons: 1) it was the answer to the growing underclass that caused economic burden for the nation, 2) it emphasized pragmatism, 3) it was a way to preserve social order, and 4) scientific theories at this time classified Blacks and other ethnic groups as physiologically, socially, and culturally different. Blacks were considered inferior to Whites, and control was needed [60].

Eugenics can be positive or negative [77]. Positive eugenics is the selective mating of people with superior genetic characteristics. Conversely, negative eugenics prevents procreation by people considered inferior in characteristics and stature [76]. Galton (1869), an early eugenics proponent, often cited its purpose as necessary because: "White Europeans were endowed with traits of intelligence, character, and noble qualities compared to the Mongolians, Jews, Negroes, Gypsies, and American Indians" [60(p67)].

Likewise, White society became strong proponents of birth control during the early part of the 20th-century. Many citizens called for limits on Black procreation [55,76]. Because of pseudoscientific and racist theories, many Blacks became victims of involuntary sterilization [29,60]. In 1909, Dr. Sharp, a medical doctor, performed at least 236 involuntary vasectomies at the Indiana State Reformatory on inmates, most of whom were Black [60].

Eugenics abuses increased as states passed legislation allowing involuntary sterilization or racial hygiene to control the underclass of minorities [60,77]. As a result, Blacks in public institutions, hospitals, and mental-illness (Psych) wards could legally become sterilization victims without consent. This quasi-genocidal environment created by the states and medical community isolated Blacks from organized medicine further. Also, it amplified the feelings of mistrust for medicine [55].

Contemporary medical-mistrust (1966–2013)

After more than three centuries of conditioning, theorists Grier and Cobbs (1968) hypothesized that Blacks suffer from a condition known as “cultural paranoia” [32(p174)]. This paranoia served to protect Blacks from adverse situations. Compounded by discrimination and access-denial, healthcare was an unwelcoming environment for Blacks. However, laws passed in 1965 leveled the healthcare-access field for all. Open discrimination could now be challenged through legal means. Overt racism became harder to practice in healthcare.

Nevertheless, racism and discrimination persist in healthcare, as subtle methods are employed. Many doctors refuse to accept government insurances, such as Medicaid and Medicare, because they do not want to serve the poor or elderly [78]. In general, however, healthcare access has increased for Blacks in the United States [79].

This contemporary period marks a shift away from access as the only reasons for disparities to more of analyzing healthcare-seeking behaviors in the Black-American population. As such, it was not until the 1990s, with the passage of the Revitalization Act of 1993, that researchers started to realize the relation between distrust, healthcare-seeking behaviors, and health disparities among Black-Americans [80]. As a result, numerous studies have analyzed medical-mistrust from various angles within the medical prism. Everything from physician-patient relationship to trust in healthcare systems has been explored to determine why Black-Americans continue to distrust the medical establishment. Despite the plethora of studies conducted, how medical-mistrust and age affect healthcare-seeking behaviors have yet to be determined.

The contemporary paradigm of medical-mistrust in the Black-American population

Medical-mistrust in the contemporary paradigm has developed due to historical medical atrocities, resulting in damaged physician-patient relationships, decreased trust in healthcare systems and hospitals, and inadequate healthcare-seeking behaviors.

The patient-physician relationship was first broken in the Black community during slavery. This strained relationship has managed to exist for several generations. An exploration of the literature reveals that Black-Americans are still apprehensive of physicians when it comes to trust. Jacob., *et al.* (2006) investigated the opinions of Black-Americans regarding the trustworthiness of physicians [81]. The researchers’ purpose was to understand better the level of trust or distrust Black-Americans have for physicians. Sixty-six participants divided into nine focus groups were recruited from the Chicago, Illinois area to answer questions about trust in physicians. A majority of the participants indicated that trust was determined by interpersonal skills (honesty, empathy, caring, listening, and keeping patients’ interest as the focal point) and technical competence (appropriate treatment, communication skills, correct diagnosis, and reliability) of the physician. For example, many of the participants did not trust foreign doctors. A severing of communication was often cited as the reason for not trusting foreign doctors [81].

Language and cultural differences affect trust. However, the study indicated that the physician's race does not play a part in the trust-level. A majority of participants indicated that character is more important than race. However, many participants did not trust White physicians because of experiences and expectations of racism or economic discrimination. Therefore, answers given by some of the participants appear to have been biased. Overall, the investigators were able to show that Blacks value interpersonal skills, the race of physician, and technical competence in the patient-physician relationship. White and foreign doctors preclude treatment adherence, trust, and healthcare-seeking behaviors [81].

There was no mention of how age affects the patient-physician relationship. Older Blacks might be more discriminatory in physician selection because of past encounters with racism. Younger Blacks might be more receptive to White and foreign doctors due to a more diverse upbringing. Thus, there is a need to determine the level of provider trust according to age.

A study by Doescher, *et al.* (2000) showed that Blacks have a less positive perception of physician care than Whites [23]. Data from the study were collected over one year (N = 32,929). Primarily, Blacks are less satisfied than Whites with various aspects of physician care. Latinos and others displayed satisfaction levels similar to Whites [23]. This study could have offered even greater significance had it determined if younger Blacks' trust level is similar to that of Whites and Latinos. It is possible that younger Blacks could have higher levels of trust than older Blacks.

Overall, it was determined that trust is a fundamental component of the patient-physician relationship. Some of the reasons for these less than satisfactory perceptions of physicians by Black-Americans include the doctor's misunderstanding of the racial group's view of illness, racial or ethnic bias that influences the physician's interactions with minority patients, and physician expectation about patients may differ from the expectations of the minority group being served [23]. Another possibility is low self-assessed efficacy regarding the management of health by the minority group. The authors concluded that this problem might be rectified by increasing the number of minority physicians. This increase in number could lead to improvements in physicians' perception, which could progress to positive health outcomes in Blacks [23].

Armstrong, *et al.* (2008) explored whether patients seeking healthcare generally trust their physician and the healthcare system [82]. This study showed distrust among racial and ethnic minority groups. Although most of the past literature focused mainly on Blacks and Whites, this study included Hispanics as did the Doescher, *et al.* (2000) study. Thus, the investigators attempted to look at racial differences regarding physician trust across the United States. They based their premise on the Fidelity-Based Trust Model (the belief that the physician has the patient's best interest or welfare as a top priority). A telephone survey of (N = 32,047) households in 60 communities across the United States was conducted [82]. This quantitative experiment produced inconclusive results. The researchers found large variability according to ethnic or racial differences in physician distrust geographically [82].

Investigators in an experiment by Benkert, *et al.* (2006) looked at how cultural-mistrust and perceived racism affect the patient-provider relationship. The Perception of Racism and Mistrust in Healthcare (PRMHC) model was used to explore the perceived effects of racism [39]. The model theorized that perceived racism could influence cultural-mistrust and the combined psychosocial elements of healthcare that affect satisfaction. This quantitative study enrolled Blacks (N = 145) receiving care from an urban health center. The results revealed a correlation between cultural-mistrust and perceived racism ($r = 0.58$, $p < 0.001$). Inversely, as Blacks' awareness of racism increased, trust in health provider care decreased ($r = -0.35$, $p < 0.01$). Thus, provider trust satisfaction decreased with increased perception of racism. The median age for participants in the study was 49.4 years [39].

Many of the Black participants were old enough to have sought healthcare at some point in time in a healthcare system. Further testing in younger Blacks (less than 40 years of age) could produce different results. Less racist encounters could equal greater trust in healthcare providers and systems. In short, there is a need to determine cultural-mistrust levels according to age within the Black population.

Armstrong, *et al.* (2006) indicated that healthcare system distrust caused poor health outcomes by interfering with the process of healthcare delivery [80]. This study showed the relationship between self-reported health-status and distrust of healthcare systems within the United States. A telephone questionnaire was used, based on a 10-item healthcare system distrust scale (Care System Distrust Scale). Nine hundred and sixty-one adults participated in the study. The results revealed that distrust of healthcare systems is large in the United States, with between 20% and 80% of the respondents reporting distrust. Also, the healthcare system's distrust did not change across ethnic or racial groups in the study. This result is dissimilar to other research—possibly due to the small number of minorities enrolled in the study. White recruits made up 80.7% of the sample. Hence, Blacks (7.8 %) and other ethnic-racial groups (11.5%) accounted for 19.3% [80]. The small number of participants made the outcome more prejudiced towards a majority or White perspective.

Adegbembo, *et al.* (2006) conducted a cross-sectional telephone-based survey of Blacks (N = 550) and Whites (N = 374), low-to-medium income residents, from Miami-Dade County, Florida, USA [83]. A questionnaire asked Whites and Blacks if they believed their care level was equal during their encounters with the healthcare system. Blacks ($P < 0.05$) did not view their care as equal to Whites. Thus, the perception of racism during care can account for differences in healthcare trust between Blacks and Whites [83]. One point of interest from this study was that it did not display the ages of Blacks or Whites, regarding to response rates. The researchers only revealed that Blacks had an average age of 43.2 versus 47.7 for Whites [83]. Thus, how different age categories would have responded within each group remains to be explored.

Cultural-mistrust according to age

There is a gap in research as to the degree in which this mistrust exists according to age. A study by Fowler-Brown, *et al.* (2006) indicated there might be a difference in the level of mistrust in the Black-American population according to age [84]. The researchers investigated the perceptions of racial barriers to healthcare in the rural south. They determined that Blacks under the age of thirty-five had less medical-mistrust than older Blacks [84]. This finding offers an insight into a previously undiscovered characteristic: older Blacks could need more significant interventional mechanisms to increase healthcare utilization than younger Blacks [12].

Since older Black-Americans tend to consume more healthcare, this finding is significant. Older Black-Americans suffer from cardiovascular disease, diabetes, and other ailments more than younger Black-Americans [9,10,15,56]. Older Black-Americans might be more antagonistic towards medical care than their younger counterparts due to past experiences with racism and prejudice.

No age-stratification was performed within each ethnic group. The inconclusive result from the Black group is in contrast with other studies. Perhaps a growing percentage of the Black-American community is changing. Black-Americans younger than forty might have different medical-trust levels than older Black-Americans. The study showed racial differences among the ethnic groups; however, it neglected to account for cultural differences contributing to distrust. Also, the data regarding Hispanics—who count themselves as White—were not adjusted.

Summary

Distrust of the U.S. healthcare system causes disparities in healthcare, especially among different ethnic groups. Armstrong, *et al.* (2008) explored distrust in healthcare systems from a value and competence standpoint [82]. The researchers investigated if distrust is driven more by value than competence. The study involved 255 participants (N = 144 Blacks, N = 92 Whites) treated at a Mid-Atlantic Health System. A quantitative cross-sectional telephone survey was conducted that measured race and scores on a Health Care System Distrust Scale. The results produced inconclusive differences between Blacks and Whites (25.8 versus 24.1, $p = .05$) when it came to value (15.4 versus 13.8, $p = .003$) and competence distrust (10.4 versus 10.3, $p = .85$) [82].

The age range for Blacks in the study was 25–75 years. It is possible that the younger Blacks (under 40 years) could have opinions closer to those of mainstream White America, rendering the results inconclusive. However, after adjusting for socio-demographic characteristics, like healthcare elements and status, being Black and distrusting the healthcare system were strongly correlated ($p = .01$). Therefore, the researchers concluded that being Black and having healthcare system distrust can decrease health-related transactions, increase healthcare costs, lower the rate of healthcare distribution, cause larger rates of unnecessary testing, and increase the use of non-effective health interventions [82].

Further research must be conducted to determine if age is a possible factor in patterns of healthcare system distrust among Blacks. This study aimed to fill this gap in the literature.

According to the literature, attitudes and perceptions of healthcare continue to affect the healthcare-seeking behaviors of Black-Americans negatively. Fowler-Brown (2006) conducted telephone interviews of ($N = 3694$) Blacks and Whites. The study looked at racial barriers in seven states: Texas, South Carolina, Mississippi, Louisiana, Georgia, Arkansas, and Alabama. The results were 54% of Blacks and 23% of Whites reported that they perceive racial barriers to healthcare in their communities. Middle-aged Black males (43.3 years) reporting excellent health were more likely to perceive racial barriers than other segments of the population. Blacks that perceived racial barriers were more likely to be less satisfied with care [84].

One unique aspect of this study was that it did stratify White and Black participants according to age. Both White and Black individuals over 65 years of age perceived healthcare barriers as more prominent than younger individuals in other groups. Because the over-65 age group utilizes more healthcare than the general population [9], it is possible that tertiary reasons could be the cause of the perceived barriers. This study's goal was to determine if there is a difference among age groups in the perception of medical-mistrust (in the provider, hospital, or healthcare system).

Perceived racism was associated with lower satisfaction for healthcare in Blacks, which could also be linked with other healthcare-related measures. A healthcare system perceived as discriminatory can contribute to racial health disparities by discouraging needed services [86]. Fowler-Brown, *et al.* (2006) concluded that Blacks and Whites believe barriers to receiving adequate care is based on ethnicity or race. The results indicated that Blacks who perceive racial barriers to care were less satisfied with their care [86].

Finally, Hewins-Maroney, *et al.* (2005) explored socio-cultural factors (racism, discrimination, poverty, and prejudice) and psychosocial factors (feeling helpless, healthcare provider mistrust, health status, and deficiency in personal decision-making) that shape Black healthcare-seeking behaviors [33]. The researchers looked at the distrust by the participants from a social perspective. Patients ($N = 111$) selected for this quantitative study were over the age of nineteen, Black, and from an urban community. Participants were interviewed by a healthcare provider (physician, physician's assistant, or nurse practitioner). It was concluded that Black healthcare-seeking behaviors were more in line with the general population once psychosocial and harmful socio-cultural variables are eliminated [33]. This conclusion involves a key finding: if medical-mistrust and psychosocial factors can be minimized, Blacks can be expected to have similar healthcare patterns as the general population. Health disparities could be minimized.

The need to determine the level of medical-mistrust according to age in the Black population is deemed fundamental and crucial. Scarce resources directed at segments of the Black population (not in need of medical procedures) results in wasted healthcare resources. Petersen (2009) showed that the importance of getting a mammogram among a group of low-income Black women was more related to individual beliefs than group similarity [85]. In other words, all Black women within the study did not have similar beliefs on mammogram testing. Consequently, many healthcare interventions tend to target populations based on assumption of similarity [85,86]. Further, Petersen (2009) concluded that differences within an ethnic group are more pronounced than between races [85].

Age may be one of those intra-group differences, relating to medical-mistrust and healthcare-seeking behaviors. Overall, there are numerous and diverse causes that affect-health seeking behaviors in the Black-American population.

Conclusion

Historically, the mistrust of White people by Black people started at the onset of slavery. From this point on, Blacks learned not to trust White citizens [32,50]. These feelings were also extended to healthcare. Blacks' use as experimental subjects and the denial of healthcare resources set the stage for medical-mistrust [31,70,87]. From the onset of slavery until its end in 1863, Blacks had no rights as humans [55]. Once slavery ended, Blacks found themselves victims of an inaccessible healthcare system, exploitation studies, racial hygiene laws (eugenics), and healthcare discrimination [37,55,60,76]. Exploitation studies, such as the Tuskegee Syphilis Study, reinforced the hostile feelings Blacks had for western medicine [29]. Blacks associated western medicine with pain, punishment, and experimentation [55].

Although laws are now in place to protect human subjects from blatant racist experiments, exploitation studies against Blacks still exist. In the 1990s, a study at a prominent American university was found to be unethical as it recruited only young Black males to determine the genetic etiology of aggressive behavior [55]. The investigators used monetary incentives to persuade parents to enroll their sons in the study. However, stipulations for enrollment were that all home medications be discontinued (some children were on asthma medicine), and participants had to ingest a low-protein diet, limit water intake, and have hourly blood-draws. Also, test subjects were given the drug fenfluramine, which increases serotonin levels in the body and aggressive behavior. The researchers were criticized for conducting an unethical medical study against minors and Blacks [55,88]. Hence, the psychological fallout of some contemporary studies continues to repel Blacks from seeking appropriate medical care and participating in research.

Access to healthcare is becoming less of a barrier to medical care due to programs like Medicaid, Medicare, and the recent 2010 passing of the Patient Protection and Affordable Care Act (PPACA). Researchers are now focusing more on healthcare-seeking behaviors within the Black-American population as a cause for disparities. Thus, healthcare perception and attitudes appear to be the main influencers of healthcare-seeking behaviors [82].

Racism and cultural oppression have shaped cultural- and medical-mistrust in the Black-American population. Factors, such as environment, cultural estrangement, destruction of Black collectivism, racist encounters, physiological and psychological stress, spiritual alienation, constitutional and socio-demographic factors, coping responses, and discrimination, have caused Blacks to avoid medical treatment [18,20,46,47,62-64,76].

The role of racism and cultural oppression as contributors to health disparities and deterrents for healthcare-seeking behaviors must also be considered when analyzing disparities between ethnic groups [43,89]. Institutional racism leads to inequalities in living conditions and healthcare access, resulting in Blacks' lower health status [34]. Racism prompts Blacks into thinking negatively about themselves, fostering harmful health behaviors [34]. Kwate., *et al.* (2003) postulated that the combination of past historical abuses and a sustained prejudiced environment preclude Blacks from changing healthcare-seeking patterns [34,90-93].

However, younger Black-Americans are living in a changing environment. More diversity, less racist encounters, and moderate discrimination may be altering the social context of the Black psyche [84]. Perceptions and attitudes regarding healthcare are changing. As such, Blacks younger than the age of forty may harbor less medical-mistrust than older Blacks [84].

The practice of emergency medicine and critical care is defined by instantaneous decision-making and teamwork on the parts of the medical team of physicians, nurses, and auxiliary and ancillary staff. Equally important and essential are trust and understanding between the healthcare providers and patients or their guardians. Medical-mistrust by the Black-American patient can cause uncertainty and hesi-

tancy, that can disrupt vital emergency medical and critical care procedures, resulting in the loss of life or adverse health outcomes—leading to personal loss, regret, and increased healthcare and social services costs to society.

Addressing the root causes of medical-mistrust in the Black-American population should be a preeminent purpose of the medical community and healthcare policymakers. Without such, some or all efforts to reduce the disparity in health outcomes in the Black-American population may be rendered ineffective. Such superficial policies could be considered addressing the symptoms rather than the cause of the under-utilization of necessary or essential medical services by the Black-American population.

Conflict of Interest Statement

The authors declare that this paper was written in the absence of any commercial or financial relationship that could be construed as a potential conflict of interest.

Supplementary Information

The authors intend to publish several interdependent papers on this topic—this being one of them. These research papers will be made available through E-Cronicon of the United Kingdom by the same team of researchers and authors. This paper is based on prior doctoral research: Pruitt K.D. (2013). “Medical Mistrust According to Age in the Black Population” (unpublished doctoral dissertation). Walden University. Minneapolis, Minnesota, USA.

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