Race, Social Determinants of Health, and Cancer: How Can APs Address and Improve Patient Outcomes?

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Abstract

The data show that racial and ethnic minority groups throughout the United States experience higher rates of illness and death across a wide range of health conditions when compared to their White counterparts. This session at JADPRO Live Virtual 2021 explained race, social determinants of health, and the impact of health disparities on oncology patients, highlighting concrete ways advanced practitioners can reduce health disparities and improve patient outcomes.

Advancements in the fight against cancer have not equitably benefitted all population groups. Between 1991 and 2016, the overall cancer death rate declined by 27%, yet socioeconomic disparities in cancer mortality widened, with the most striking disparities observed in cancers most amenable to prevention and early detection.

During JADPRO Live Virtual 2021, Rose DiMarco, PharmD, BCPS, BCOP, and Lisania Milli, MSN, RN, WHNP-BC, explained concepts such as race, social determinants of health, and the impact of health disparities on oncology patients. The presenters also identified cancers associated with the highest risks of disparities and described ways that advanced practitioners can reduce these disparities and improve patient outcomes.

US POPULATION: GROWTH SLOWS, BUT DIVERSITY GROWS

According to Ms. Milli, an oncology nurse practitioner and APP manager at Memorial Sloan Kettering Cancer Center in New York, race remains the most potent force for mobilizing the American people against injustice. By taking away the ability to link health status and race, however, one of the most powerful tools to fight social injustice in medicine and public health has been removed.

"This is obviously affecting us as a nation as we have become more and more diverse," said Ms. Milli. "There

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remains a great need to research culturally sensitive strategies to treat disease, especially cancer, in minority and ethnic groups."

In 2020, the US population grew at the lowest rate in a century because of fewer births, more deaths, and decreased immigration. As a result, the growth rate of both the minority and non-Hispanic White populations diminished, but the racial diversity of the population continued to grow according to the new census bureau estimates (Johnson, 2020). According to Ms. Milli, this increasing diversity reflects two important demographic trends: a growing minority population and a declining non-Hispanic White population.

"All of the nation's population increase, both last year and since 2010, is the result of minority population gains," said Ms. Milli, who noted that the minority population grew by 1.4% in the last year and by 17.5% since 2010.

"How the COVID-19 pandemic will influence future mortality, fertility, and immigration remains to be seen," she added. "While the pandemic may impact the rate of change in diversity, long-term demographic trends make it likely that United States diversity will continue to grow."

SOCIAL DETERMINANTS OF HEALTH

The World Health Organization defines social determinants of health as "the circumstances in which people are born, grow up, live, work, and age, and the systems put in place to deal with illness" that are shaped by the "distribution of money, power, and resources at global, national, and local levels" (Alcaraz et al., 2020). As Ms. Milli explained, social determinants of health include housing and neighborhood conditions, educational and economic factors, transportation, and social connections, and reflect interconnected social structures in economic systems shaped by the distribution of power and resources.

"The National Academies of Sciences acknowledge that ethnic and minority groups suffer from structural inequities affecting poor health outcomes," commented Ms. Milli. "In terms of cancer, there are multiple types of determinants that contribute to individual cancer risk and the likelihood of survival after a cancer diagnosis...Despite scientific or medical advances, disadvantaged communities continue to lack resources that enable them to protect and enhance their health."

According to Ms. Milli, disparities in health outcomes are present early in life and are compounded during a person's lifetime. There are large disparities in infant mortality, for example, and research shows that infants born to Black women are 1.5 to 3 times more likely to die than infants born to women of other races or ethnicities (LaVeist & Isaac, 2013).

Studies have also shown that rates of coronary heart disease and stroke for Blacks are 32% higher than rates for Whites, and between 1999 and 2002 the homicide rate for Black teenagers was 10 times greater than that of Whites. Ms. Milli reported that cancer is projected to soon overtake heart disease as a leading cause of death in the US, and as of 2014, cancer had already surpassed heart disease among Hispanics and Asian Americans in 22 states.

"Therefore, addressing social determinants of health that drive disparities in cancer incidence, such as tobacco-related and infection-related cancers, requires policy action beyond the health-care system," said Ms. Milli. "We need policies that directly address socioenvironmental conditions."

CANCER DISPARITIES

Dr. DiMarco discussed five cancers for which race, social determinants of health, and socioeconomic status have direct impacts on cancer outcomes: breast, cervical, prostate, lung, and colorectal cancer.

Breast Cancer

The most diagnosed cancer in the US, breast cancer will affect approximately 1 in 8 women (Cancer.org, 2021a). As Dr. DiMarco reported, despite a greater incidence of breast cancer in White women, the mortality rate for Black women is 39% higher (Singh & Sridhar, 2021; Susan G. Komen, 2021). Among Black women, breast cancer is associated with higher stage at diagnosis, lower treatment adherence, limited access to high-quality health care, and a higher risk of developing aggressive subtypes (Singh & Sridhar, 2021; Zavala et al., 2020). According to Dr. DiMarco, socioeconomic status and lifestyle factors affect breast cancer–related outcomes. These include increased incidences of type II diabetes/obesity and higher parity without breastfeeding, which may

lead to aggressive tumor subtypes (Zavala et al., 2020). Dr. DiMarco also noted that low-income populations are less likely to undergo initial surgical management or perioperative chemotherapy/radiotherapy (Singh & Sridhar, 2021).

Cervical Cancer

The third most common gynecologic cancer in the US, cervical cancer is also associated with decreased overall survival among Black women (58% at 5 years) vs. White women (71% at 5 years) (Cancer.net, 2021a; Pal, 2014). According to Dr. DiMarco, low education level, low income, and lack of insurance contribute to this disparity. Cervical cancer incidence is nearly twice as high in communities where the poverty level is over 20% compared with less than 10%, for example (Jeudin et al., 2013). Dr. DiMarco noted that screening and treatment disparities impact outcomes, and adherence to follow-up after an abnormal Pap smear is low in minority populations (Downs et al., 2008). Black women tend to have lower adherence to the vaccination schedule and are less likely to complete vaccination, she said (Jeudin et al., 2013).

Prostate Cancer

Localized prostate cancer has a 5-year overall survival rate of approximately 98%, and more than 80% to 89% of prostate cancers will be diagnosed at this localized and intervenable stage (Cancer.org, 2021b; Zavala et al., 2020). Mortality for Black men and Hispanic/Latino men, however, is significantly higher than for White men (60% and 20% higher, respectively; Singh & Sridhar, 2021). According to Dr. DiMarco, socioeconomic status has a huge impact on prostate cancer outcomes. Medicaid and uninsured patients are more than 4 times as likely to present with metastatic disease, for example (Sing & Sridhar, 2021). Black men with fewer than 12 years of education have almost double the rate of prostate cancer death compared with Black men with further schooling (Albano et al., 2007). Minority populations are also more likely to experience treatment delays and report complications after surgery or radiation (Zavala et al., 2020).

Lung Cancer

Compared with other cancers, lung cancer has the highest mortality rate in the US (Zavala et al., 2020). What's more, Black men have both the highest incidence and highest mortality, and lung cancer is the leading cause of cancer death for Hispanic/Latino men (Zavala et al., 2020). Lifestyle factors, socioeconomic status, and screening/treatment disparities impact outcomes. Black smokers tend to smoke less, for example, but have a higher risk of developing cancer compared with White smokers (Aldrich et al., 2019; Rivera et al., 2020; Zavala et al., 2020). Patients who live in rural areas are less likely to have access to screening centers, especially in the southeast where there is also a high smoking prevalence and high incidence of lung cancer (Rivera et al., 2020).

Dr. DiMarco noted that minority populations are less likely to receive standard of care, undergo screening, and receive surgical interventions, and Medicaid patients less likely to be tested for tumor mutations (Zavala et al., 2020).

Colorectal Cancer

The third most common cancer diagnosed in men and women combined in the US, colorectal cancer is associated with the highest incidence and mortality in Black and American Indian/Alaskan Native patients (Singh & Sridhar, 2021). As Dr. DiMarco reported, patients diagnosed with colorectal cancer under the age of 50 are more likely to be Black, and Black patients are approximately four times more likely to be diagnosed with late-stage disease (Galadima et al., 2021; Singh & Sridhar, 2021). Dr. DiMarco noted that lifestyle factors such as unhealthy diets, obesity, and sedentary lifestyles are associated with low socioeconomic status and increase the risk of colorectal cancer and poor outcomes (Singh & Sridhar, 2021; Zavala et al., 2020). Black and Hispanic/Latino patients are less likely to receive screening recommendations, especially Black women, and are more likely to have surgery without adjuvant chemotherapy/radiation, said Dr. DiMarco (Ahmed et al., 2013; Silber et al., 2014; Singh & Sridhar, 2021).

ADDRESSING HEALTH DISPARITIES IN PATIENTS WITH CANCER

There are many government, clinical, and advocacy organizations working to dismantle institutional racism and improve the socioeconomic

status of under-resourced populations in the US and around the world, but APs can also help to improve patient care at the individual level by encouraging patient-specific lifestyle modifications, Dr. DiMarco noted.

"Minority populations are less likely to be advised to quit smoking in the first place, so it's important to encourage smoking cessation," said Dr. DiMarco, who noted that minorities are also less likely to use nicotine replacement products and are less likely to quit successfully (Rivera et al., 2020; Zavala et al., 2020).

Although healthy eating and exercise should also be promoted in all patients, Dr. DiMarco emphasized that these lifestyle initiatives must be inclusive of culture, languages, and education levels.

"Social work can be a great resource, particularly for tobacco cessation and promoting healthy eating and exercise," Dr. DiMarco said. "The social worker in my practice has been able to obtain funds for groceries and resources for meal delivery programs that really help patients."

"Some breast cancer organizations will also include a gym membership or free yoga, which can really help patients develop healthy eating and exercise habits," she added.

In addition, Dr. DiMarco recommended routine follow-up with primary care and cancer screenings as appropriate (Table 1). She also encouraged APs to continue to push for increased minority enrollment in clinical trials.

"As APs, we play a crucial role in cancer prevention for both our patients and their families," said Dr. DiMarco. "We should refer patients to available support services, care navigation, and financial assistance, and keep up-to-date on clinical guidelines and recommendations, particularly for minority populations" (Table 2).

According to Ms. Milli, there is a great need for research to investigate culturally humble strategies to provide effective treatment and prevention.

"Minority, immigrant, and underserved populations continue to experience an excessive cancer burden, not only due to barriers in access to health care but also because of disparate exposures to carcinogens, pathogens, comorbidities and environmentally-induced stress," said Ms. Milli. "Addressing social determinants of health of our patients will help reduce stress and healthcare disparities and improve cancer care."

"Given our expertise and training, advanced providers are well-suited to address health-care disparities in cancer care," Ms. Milli concluded.

Disclosure

The presenters had no conflicts of interests to disclose.

Table 1. Cancer Screening Recommendations

Cancer	U.S. Preventive Services Task Force	National Comprehensive Cancer Network
Breast	Biennial screening mammogram for women aged 50–74. May consider screening at ≥ 40, particularly for women with increased risk	Annual screening mammogram beginning at ≥ 40 years old
Cervical	Age 21–29: cervical cytology every 3 years Age 30–65: cervical cytology every 3 years or hrHPV testing (± cervical cytology) every 5 years	–
Prostate	Periodic PSA-based screening for men aged 55–69	Periodic PSA-based screening for men aged 45–75 with average risk. Consider screening starting at age 40 if African ancestry, germline mutations that increase risk, or family history.
Lung	Annual screening with low-dose CT for patients between 50–80 with a 20 pack-year smoking history and currently smoke or have quit within the past 15 years	Annual screening with low-dose CT if ≥ 50 and ≥ 20 pack-year smoking history
Colorectal	Average risk: screening for ages 50–75 (grade B recommendation to begin screening at 45 years due to increasing rates of cancer in patients ≥ 45)	Average risk: screening beginning at age 45 *Stronger data for screening ≥ 50, however lower-level evidence supports screening earlier

Note. hrHPV = high-risk human papillomavirus. Information from U.S. Preventive Services Task Force (2021); NCCN (2021).

Table 2. Resources for Underserved Populations With Cancer

ACCESS: Arab Community Center for Economic and Social Services	MaleCare
African American Breast Cancer Alliance, Inc.	Native American Cancer Initiatives, Inc.
American Indian Cancer Foundation	Neuva Vida, Inc.
Asian American Cancer Support Network	Sisters Network, Inc.: A National African American Breast Cancer Survivorship Organization
Día de la Mujer Latina	The Chrysalis Initiative
Financial Resources for People with Cancer	The Latino Cancer Institute
Latinas Contra Cancer	

Note. Information from Cancer.net (2021b).

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