CONTINUING EDUCATION

EDUCATIONAL OBJECTIVES

After participating in this activity, clinicians should be better able to

- Know the National Cancer Institute definition of cancer care disparity
- Describe the three levels of cancer care
- Determine how each level of cancer care is affected in disparate populations

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Understanding the impact of disparities on cancer care

Donald R. Fleming, MD

STATEMENT OF NEED/PROGRAM OVERVIEW

The issue of disparities in cancer care is a complex and challenging one for oncology nurses. The socioeconomic, cultural, and financial aspects have varying impact on outcomes for patients. Education, especially for disparate populations, about primary and secondary preventive measures can provide the most benefit in cancer care outcome. The tertiary interventions level is where most disparate populations are on a par with nondisparate populations. Yet there is still some influence because of the disparities. Nurses should understand how patient perceptions can impact adherence to best practices.

CE INFORMATION

Title: Understanding the impact of disparities on cancer care
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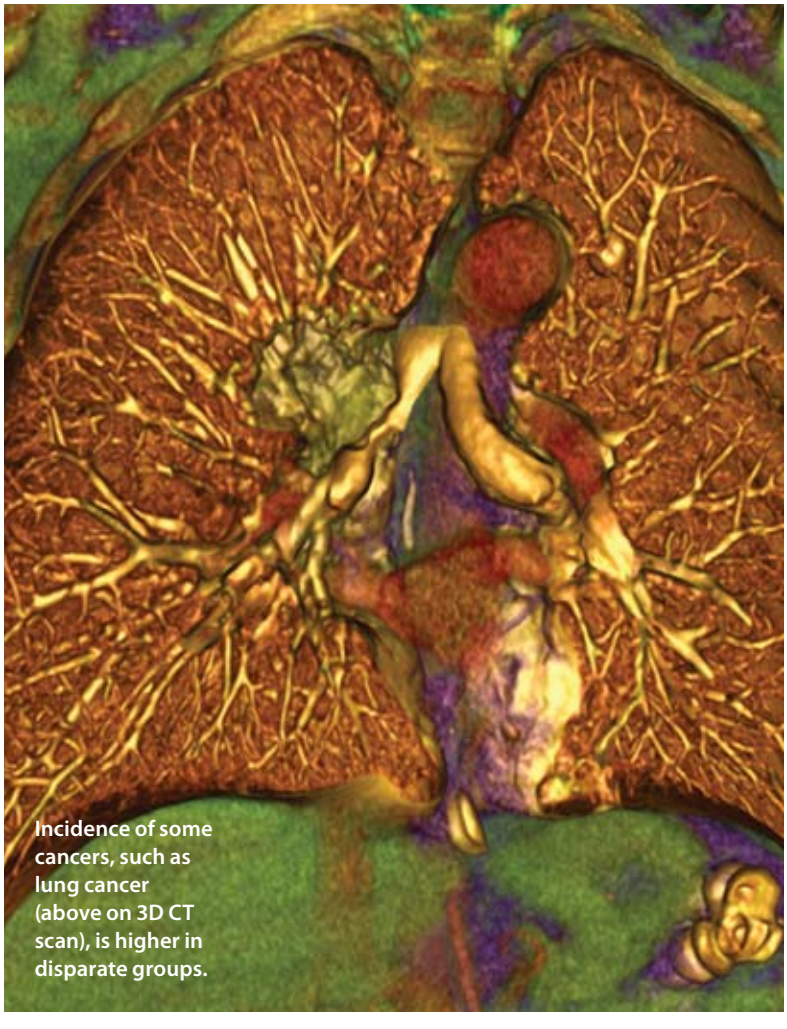
Understanding the impact of disparities on cancer care

Patients' perceptions of health care have a significant influence on decision-making and the effectiveness of cancer care and patient education.



Incidence of some cancers, such as lung cancer (above on 3D CT scan), is higher in disparate groups.

DONALD R. FLEMING, MD

Cancer care disparity is a complex issue, as it is both a medical and a socioeconomic issue. A discussion of the issues inherent to cancer care disparities should first define cancer care disparity and identify which populations are classified as disparate. As each population is identified as disparate, one can then discuss the causes of outcome differences in disparate versus nondisparate populations. In doing so, a discussion can then reflect on how differences in primary and secondary preventive practices, and ultimately, tertiary interventions affect the health outcomes of persons identified within these populations.

Socioeconomic factors are the most universal contributors to cancer outcome disparity. They include the patient's or guardian's education level, whether the patient has health insurance or a contract with a third-party payer, and access to effective health care. Living conditions or exposures to environmental toxins, lifestyle choices such as diet and exercise, excessive alcohol and tobacco use also affect cancer care outcomes.[1-3]

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Research on cancer care disparity outcomes has focused on the major malignancies (colorectal, lung, and breast cancers, and occasionally cervical and prostate cancers) because large populations can be studied.[3-5] The factors used in these studies are socioeconomic status, minority status, adherence to primary and secondary preventive measures, and tertiary interventions. This article reviews the impact of disparities on outcomes at each level of cancer care.

DEFINING THE TERMS

The National Cancer Institute (NCI), after multiple projects and studies on the issue, established a standard definition. The NCI defines *cancer care disparities* as "adverse differences in cancer incidence (new cases), cancer prevalence (all existing cases), cancer death (mortality), cancer survivorship, and the burden of cancer or related health conditions that exist among specific population groups in the United States."[6,7]

Primary intervention refers to reducing the incidence of cancer through lifestyle and behavioral changes. *Secondary interventions* are the various screening techniques used to detect cancer early enough to positively affect the outcome. *Tertiary interventions* are the team modalities used at various stages once the cancer has been diagnosed.[8,9]

Factors used to identify a *disparate population* may include age, race, disabilities, socioeconomic status, education level, and gender. In regard to heath-related issues, however, socioeconomic status tends to have the greatest influence on disparities. A greater incidence of some behavioral factors (eg, smoking or obesity) among socioeconomic disparate populations is reported, in addition to limited access to health care.[1,3,6]

PRIMARY PREVENTIVE MEASURES

Primary interventions, activities such as exercise, obesity reduction, avoiding environmental situations conducive to malignancies, and avoiding smoking and excessive alcohol use, can decrease the risk of cancer. Disparate populations have traditionally had a reduced participation in healthy lifestyle practices. Disparate populations tend to have a higher level of obesity, greater incidence of smoking, and excessive use of alcohol, which likely leads to a higher incidence of cancer in these groups.[1,10-13] Genetic or heredity risk factors cannot be controlled and also play a role in cancer incidence.

These unhealthy lifestyle choices not only increase the incidence of cancer, they also increase the mortality rates from other major illnesses such as diabetes and heart disease. Even within the cancer diagnoses, evidence shows that some forms of cancer have a worse prognosis when associated with a particular habit.[14] For example, adenocarcinoma of the lung is statistically more likely to respond to certain biologic therapies, and therefore result in improved survival, if the patient is a nonsmoker.[14,15]

Obesity is often overlooked in relation to a cancer diagnosis. Medical science is just beginning to understand the relationship between up regulation of insulin requirements and carcinogenesis.[10,16] While many may believe that excess adipose tissue is an advantage once cancer is diagnosed, this theory ignores its possible contributory role in the development of malignancy.

Certain vaccinations have gone a long way toward preventing cancer. In the United States, mandatory administration of the hepatitis B vaccine at birth has rendered hepatocellular carcinoma, a common malignancy through the world, a rare disease in the United States. Conversely, underuse of human papillomavirus (HPV) vaccination in disparate populations has led to increased concerns about clustering of head and neck, cervical, and anal cancer among these groups.[17-19] There is often a lack of understanding that even with such preventive programs as HPV vaccination, participants should understand the importance of continued surveillance, as the vaccine is not meant to replace Pap tests and pelvic examinations.

Among many disparate populations, patients undergo colonoscopy after symptoms of cancer develop more often than for screening.

Lifestyle choices have a major impact on cancer risks throughout the world. Among disparate populations in developing or third-world countries, primary cancer prevention must focus additionally on minimizing cancer-associated infections such as hepatitis B and adequate nutrition to maintain a healthy immune system.

SECONDARY PREVENTIVE MEASURES

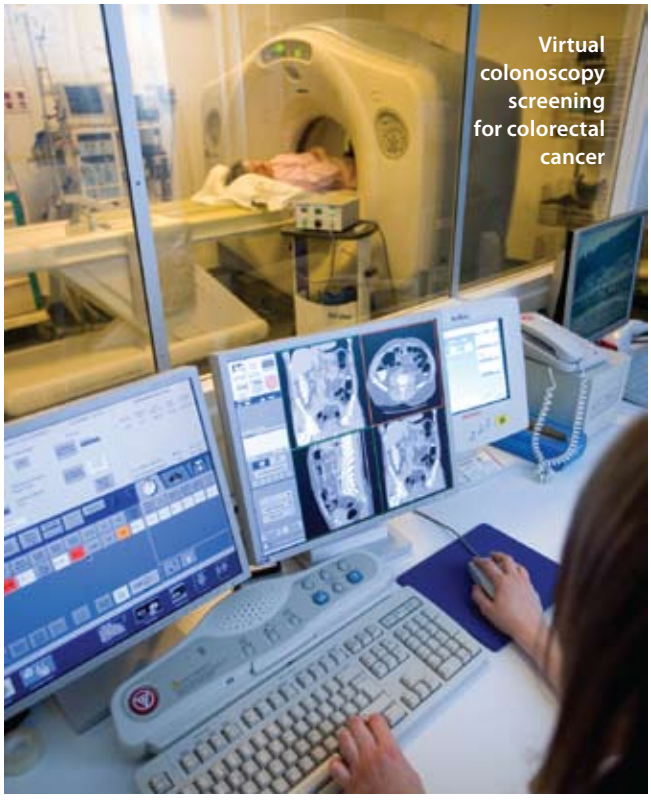
Screening techniques or secondary interventions for certain types of cancer are underutilized in disparate populations.[20-23] Availability of screening techniques is often limited because the primary disparity is economic. For example, among many disparate urban populations and rural communities, patients undergo colonoscopy after symptoms of colorectal cancer develop more often than for screening purposes; likewise, mammography is used more frequently for women with palpable breast abnormalities as opposed to screening asymptomatic women.[24,25] Although

Pap tests and pelvic examinations for cervical cancer were the first and foremost form of secondary prevention, a high degree of nonparticipation in cervical cancer screening still exists among disparate populations, especially the uninsured and under-insured.[18,26]

IMPACT OF SCREENING CONTROVERSIES

Some areas of cancer screening have become quite controversial. The reliability of using prostate-specific antigen (PSA) levels and CA-125 biomarkers to detect prostate cancer and ovarian cancer, respectively, is frequently debated. Because the value of these screening techniques has yet to be established, a lack of access to these tests has not resulted in a significant disparity in cancer outcomes.[9,27,28] In some populations, particularly African American females, undergoing mammography may not have a significant impact on outcome. A higher incidence of triple-negative breast cancers is seen in these populations, and the prognosis for this cancer is significantly worse than other breast cancers, even with early detection.[29,30]

Tumors of the prostate tend to be a higher grade in African American men who may experience a worse outcome, despite stage-for-stage detection rates similar to those seen in white men. Due to individual differences in baseline PSA values, some adjustment of target PSA values may be necessary to avoid excessive false-positive interpretations of an elevated PSA level in these populations.[27,28]



Virtual colonoscopy screening for colorectal cancer

The overall effectiveness of some screening tests is controversial. There is active debate over the worse prognosis seen with colorectal cancer. Although a greater degree of advanced disease is seen in some racial groups, biologic differences in colorectal cancer may worsen the prognosis for these patients even when detected at equal stages.[29,31]

TERTIARY INTERVENTION

The treatment of cancer after diagnosis, includes surgery, radiotherapy, chemotherapy, biologic therapy, or a combination thereof. Both disparate and nondisparate populations tend to focus more on this part of cancer care than on better use of secondary techniques and the more important primary preventive measures. The rapidly escalating cost of cancer care in the United States and around the world reflects the enormous impact this has on the economy.[20,23,32]

Tertiary intervention tends to be the most anxiety provoking and cost-consuming aspect of oncology; interestingly, disparity in outcomes at this stage of cancer care is the lowest among the various patient populations.[33] A person in the highest socioeconomic group is just as likely to succumb to advanced disease as the person on the lowest rung of the socioeconomic ladder.

ASSESSMENT OF QUALITY

A cancer diagnosis and making cancer-care decisions is an emotional experience. The media, as we know it today, can influence the decision-making of patients. Lay marketing works to promote the idea that outcomes may be better at one center than at another center. The reality is that all cancer treatment centers use the same medications and treatment regimens throughout the country. Patients, especially those in disparate populations, are often unaware that regulatory agencies such as the Commission on Cancer Certification by the American College of Surgeons evaluate a cancer center to determine if it, indeed, is meeting standards of care equivalent to others throughout the country.[34,35]

A difference in cancer treatment services occurs perhaps in the areas of surgery and radiation, and may vary. Centers with more surgical activity might be preferred for certain cancer surgeries. Occasionally, some radiation techniques provided at urban centers are not available in more rural areas. In regard to chemotherapy and chemobiologic regimens, however, there is not much difference in outcomes or techniques as these medications are "off-the-shelf" products, and physicians must adhere to National Comprehensive Cancer

Network (NCCN) guidelines and the established regimens indicated for that cancer type and patient population. Some patients find it hard to believe that systemic therapies are the same at both rural and urban facilities.[36,37] The concern arises with disparate patients who may believe that they are not receiving the best care locally and opt to stop therapy.[38] Education can play a great role in correcting this situation.

In developing countries, cancer treatment, like preventive screening, lags behind that of developed countries. For example, mastectomies still prevail over breast conservation techniques,[34,35,39] a practice still seen in isolated areas of the United States as well; breast cancer intervention involving radiation is replaced with a more aggressive surgery when such an option is available.[40] In Africa, administering chemotherapy has been much more acceptable for some forms of lymphoma as opposed to radiation, even when the disease is localized.[41]

Patient education focused on healthy lifestyle habits and undergoing cancer screening is an invaluable tool for reducing outcomes disparities.

SUPPORTIVE CARE

Beyond the prevention, detection, and treatment of cancer, the best use of supportive care, or hospice support services, varies with disparate populations. Disparate patients are often more reluctant to utilize these services, which may be related to a feeling of abandonment or belief that they are being denied active cancer therapy due to their socioeconomic status.[30,42] The use of hospice may also be influenced by cultural beliefs. The duration of hospice care has been declining over the last decade, especially among the disparate.[28]

CONCLUSION

Solutions for the disparities in cancer care and outcomes in the United States often involve adding more money into the existing health care apparatus. The United States spends more money on health care per capita than any other country in the world, save Norway; yet, it has not produced similar improvements in life expectancy outcomes.[32,43] Money is extremely important to achieve new goals, but it does not necessarily address the issues of disparity. Patient education focused on primary preventive measures such as healthy lifestyle habits and undergoing cancer screening is an invaluable tool for reducing cancer outcomes disparities.

Some encouraging trends, however, are emerging in the United States. Pharmaceutical companies are developing programs to help less fortunate patients to ensure they can obtain the most advanced yet expensive medications. Some companies report providing more medications than what they receive payment for in areas with larger disparate populations.[43,44] Another promising trend has been a major reduction in the number of African American men who smoke, which has had an equalizing effect on the death rate in this patient population.[43]

The issue of disparities in cancer care is a complex one. Effective elimination of disparities involves ensuring the participation of diverse communities in planning infrastructure, services, and initiatives that can reduce disparity, and access to funding. ■

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