Published in final edited form as:

J Psychosoc Oncol. 2013 ; 31(2): 123–135. doi:10.1080/07347332.2012.761320.

Depression and under-treatment of depression: potential risks and outcomes in black lung cancer patients

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Abstract

In the U.S., black men are at higher risk than white men for lung cancer mortality whereas rates are comparable between black and white women. This paper draws from empirical work in lung cancer, mental health and health disparities to highlight that race and depression may overlap in predicting lower treatment access and utilization and poorer quality of life among patients. Racial barriers to depression identification and treatment in the general population may compound these risks. Prospective data are needed to examine whether depression plays a role in racial disparities in lung cancer outcomes.

Introduction

Lung cancer is the second most common cancer and the leading cause of cancer death among black men and women in the U.S. (American Cancer Society [ACS], 2010). Moreover, blacks face higher incidence and poorer survival rates relative to whites (ACS, 2010; Wang, Fuller, & Thomas, 2007). These disparities reflect racial differences between black and white men; during 2001–2005, the average lung cancer incidence and death rates were 36 and 30% higher among black men relative to white men whereas rates were comparable between black and white women (ACS, 2010).

Disproportionate lung cancer burden among blacks has been attributed to numerous interrelated factors, including racial disparities in health, socioeconomic, and medical resources. However, the psychological impact of lung cancer among black patients has received little attention. This is unfortunate because psychological problems comorbid with lung cancer have also been linked to differences in medical care and survival (Pirl et al., 2008; Temel et al., 2008), which are critical components of healthcare disparities. Hypothesized mechanisms for associations with psychological problems, such as depression, are bi-directional, with pre-morbid depression as a possible risk factor for cancer

development and progression and/or depression as an outcome of cancer distress (Pirl et al., 2008; Reiche, Nunes & Morimoto, 2004; Rodin et al., 2009; Temel et al., 2008). Nonetheless, depression might further complicate health disparities and represent a potential target to reduce the racial disparities observed among individuals with lung cancer. This paper examines the role of depression in racial disparities in lung cancer, highlighting the overlap between race and depression in predicting lower treatment access and utilization and higher risk for poorer lung cancer quality of life among black patients.

Risk Factors for Racial Disparities in Lung Cancer and Lung Cancer Care

Most research examining racial differences in lung cancer survival has focused on disparities in treatment access and utilization (Bach, Cramer, Warren, & Begg, 1999; Bryant & Cerfolio, 2008), rather than disease biology (Mechanic et al., 2007). For instance, blacks are less likely than whites to undergo surgical treatment for resectable disease (Bach, Cramer, Warren, & Begg, 1999; Farjah et al., 2009; Hardy et al., 2009; Lathan, Neville, & Earle, 2006) to undergo invasive staging (Lathan et al., 2006), and to receive optimal treatment for advanced disease (Hardy et al., 2009; Shugarman et al., 2009). In a study of lung cancer patients at a U.S. military medical center, a setting with universal access to care, outcomes across race were comparable (Mulligan et al., 2006). Black patients also present with poorer performance status relative to white patients (Blackstock et al., 2002; Yang et al., 2010), a factor which influences treatment selection (Earle, Neumann, Gelber, Weinstein, & Weeks, 2002) and is one of the strongest prognostic indicators of survival time (Blackstock et al., 2002; Yang et al., 2010). Black patients are also more likely than white patients to face poverty, a key predictor of poorer prognosis above and beyond race and clinical factors (Bryant & Cerfolio, 2008; Hardy et al., 2009).

Factors at patient, provider and institutional levels have been proposed to underlie racial disparities in treatment access and utilization. Black race has been associated with lower likelihood of being offered surgery by providers (Lathan et al., 2006) and of being assessed by a cancer specialist (Earle et al., 2002). In turn, black patients are more likely than white patients to refuse surgery (Lathan et al., 2006) or neo-adjuvant treatment (Bryant & Cerfolio, 2008) when recommended. Limited evidence suggests that during treatment evaluation visits, relative to white patients, black patients may perceive that the provider was less informative, supportive, or collaborative (Gordon, Street, Sharf, Kelly, & Soucek, 2006), with indication of less effective communication patterns among patients and providers who are race-discordant versus race-concordant (Gordon, Street, Sharf, & Soucek, 2006). Black patients have also reported stronger perceptions of surgery-related risk (e.g., that surgery can cause the tumor to spread; Margolis et al., 2006).

Taken together, these findings emphasize that treatment barriers are multifold, including and extending beyond treatment access and utilization. This work highlights the elevated disease burden experienced by black patients, including provider bias, patient distrust, and potential gaps in informational and instrumental support needed to navigate lung cancer care systems.

Potential for Racial Disparities in Depression among Lung Cancer Patients

Depression affects at least 10–25% of all cancer patients (Honda & Goodwin, 2004; Massie, 2004; Pirl, 2004) and is more prevalent in lung cancer relative to other common tumor types (Brintzenhofe-Szoc, Levin, Li, Kissane, & Zabora, 2000; Hopwood & Stephens, 2000).

Racial differences in the prevalence of depression comorbid with lung cancer are unknown. However, black patients tend to present with greater disease burden, which has been shown to predict greater prevalence of depression among patients with cancer (Chen & Chang, 2004; Rodin et al., 2004; Stepanski et al., 2009). It is therefore plausible that the widespread racial disparities in lung cancer result in black patients being at elevated risk for depression. It is also possible that depression may interfere with lung cancer care uniquely in this group.

In the context of a cancer diagnosis, understanding depression prevalence and risk factors for depression is important for several reasons. For one, depression symptoms and major depressive disorder have both predicted a small, significant mortality risk in lung cancer, above and beyond other prognostic factors (Satin, Linden, & Phillips, 2009). Furthermore, black cancer patients and cancer patients with untreated depression share several risks for poorer lung cancer outcomes. Cancer patients with depression experience poorer quality of life (Wilson et al., 2007) and are more likely than cancer patients without depression to fear cancer treatments and side effects, which can factor into patients' decisions about treatment (Ell et al., 2005). Depression also affects cognitive functioning and interferes with a patient's ability to understand provider explanations and recommendations (Ell et al., 2005). These pervasive and overlapping risks suggest that untreated depression in black patients could exacerbate an already disproportionate disease burden and barriers to cancer care in this group.

Community-based epidemiologic surveys have not shown consistent differences in depression prevalence between black and white adults (Kessler et al., 2006; Williams et al., 2007). There are several reasons why these findings might not apply to racial differences in lung cancer patients. First, lung cancer is typically a disease of older adulthood, and much less is known about disparities in depression specifically among older adults. Second, community-based studies under-represent high-risk groups, such as those coping with severe health problems that predict elevated depression for both black and white older adults (Mui & Bernette, 1994; Okwumaba, Baker, Wong, & Pilgram, 1997). Third, previous work has not examined differences in perceived symptom severity; among adults who meet criteria for major depression, blacks are more likely than whites to experience depression symptoms as chronic, severe, and disabling (Williams et al., 2007).

Racial Disparities in Mental Healthcare Patterns

Because depression is treatable in patients with cancer (Ell et al., 2008; Strong et al., 2008), it is possible that mental health treatment could ameliorate disparities caused or exacerbated by depression in patients with lung cancer. However, the well-documented racial disparities in mental healthcare utilization within the general population might further compound the problem. Black adults show less outpatient mental healthcare utilization relative to whites, with differences observed in both access to and initiation of care (Cook, McGuire, &

Miranda, 2004; Han & Liu, 2005; Lasser, Himmelstein, Woolhandler, McCormick, & Bor, 2002; Samnaliev, McGovern, & Clark, 2009; Snowden & Thomas, 2000; Wang et al., 2005). Recent studies comparing blacks to whites indicate that when depression is identified, blacks continue to face lower utilization of any mental healthcare and lower quality of care (Alegria et al., 2008; Fortuna, Alegria, & Gao, 2010; Harman, Edlund, & Fortney, 2004; Teh et al., 2010), with some evidence that these disparities persist independent of socioeconomic factors (Alegria et al., 2008; Fortuna et al., 2010). From 1996 to 2005, antidepressant treatment in the U.S. increased as a whole and for most demographic subgroups except blacks, whose use remained less than half that of whites (Olfson & Marcus, 2009).

Among those who initiate depression treatment, evidence for disparities in treatment retention is more equivocal. It also remains unclear whether there are racial disparities in the prevalence of adequate retention in psychotherapy (Harman et al., 2004; The et al., 2010). While whites may be more likely than blacks to receive or take antidepressants (Fortuna et al., 2010; Harman et al., 2004; Miranda & Cooper, 2004), findings are inconsistent as to whether there are racial disparities in the prevalence of adequate treatment trials among those who fill at least one prescription (Harman et al., 2004; Teh et al., 2010). Thus, disparities have been observed more consistently in treatment initiation relative to retention, underscored by low prevalence of detecting depression among vulnerable or hard-to-reach patients (Harman et al., 2004).

Risk of Racial Disparities in Depression Management as Part of Lung Cancer Care

The extent to which current mental healthcare disparities extend to depressed patients in cancer care settings has not been examined. Oncology practice guidelines including those published by the National Comprehensive Cancer Network (National Comprehensive Cancer Network, n.d.) and the American Society of Clinical Oncology (American Society of Clinical Oncology, n.d.) include psychosocial care (e.g., assessing and addressing emotional well being) as a standard component of quality cancer care. While these guidelines have the potential to improve the detection and treatment of depression in patients with cancer compared to the general population and to reduce mental healthcare disparities, they have not been uniformly adopted in oncology practices (Jacobsen & Ransom, 2007; Pirl et al., 2007). Prevalence of depression referrals at oncology sites remains low in general (Ellis et al., 2009), and more so among low-income patients (Ell et al., 2005).

Several factors can affect depression management for patients during oncology visits (Greenberg, 2004), some of which are particularly relevant to racial minority patients. For instance, both patients and oncology providers often frame affective depression symptoms (e.g., sadness, anhedonia) as normative responses to cancer (Ell et al., 2005; Walker & Sharpe, 2009), and so these symptoms are often ignored and thus unaddressed. Additionally, somatic depression symptoms (e.g., fatigue, appetite disturbance) can overlap with the symptoms of cancer and cancer treatments (Lasser et al., 2002; Greenberg, 2004), which complicate assessment especially in patients who present with greater disease burden. Interpretation of depressive symptoms may be even more challenging in black patients, who

are more likely than their white counterparts to experience adverse treatment side effects that may confound or overlap with depression (Tammemagi, Neslund-Duda, Simoff, & Kvale, 2004). Black lung cancer patients may be at risk of having their depression remain undetected and consequently untreated.

While racial disparities in mental healthcare among cancer patients has not been directly examined, research in other complex medical conditions suggests that such disparities persist -- with negative downstream effects on self-care, medical adherence and disease outcomes (Cook et al., 2006; Osborn et al., 2010; Sambamoorthi, Walkup, Olfson, & Crystal, 2002). Among adults with diabetes, blacks are much less likely to report use of an antidepressant than whites, independent of socioeconomic factors, health risk behaviors, and depression severity (Osborn et al., 2010). In HIV primary care settings, blacks are less likely to receive any mental health treatment (Cook et al., 2006; Sambamoorthi et al., 2002). These studies support that contact with healthcare systems may not improve depression management for black patients. Importantly, findings also emphasize that when patients with chronic illness do not receive adequate depression treatment, their ability to effectively participate in their medical care suffers. For patients who are already at risk for poorer lung cancer quality of life, depression represents a critical risk factor that is modifiable.

Addressing Barriers to Mental Healthcare and Preferences for Care

Improving depression management requires attention to the economic, institutional, provider and patient factors that underlie current mental health disparities in the general population (Das, Olfson, McCurtis, & Weissman, 2006; Holden & Xanthos, 2009). Most adults first seek care for depression from their primary care providers (Kessler et al., 2005; Wang et al., 2006). However, black individuals are less likely than white individuals to have continuity of provider care in which depression can be recognized (Hargraves, Cunningham, & Hughes, 2001). More work is needed to understand barriers and preferences for mental health care specifically among black patients.

Some evidence supports that mental healthcare disparities are more prevalent in primary care visits relative to specialty mental healthcare visits (Stockdale, Lagomasino, Siddique, McGuire, & Miranda, 2008). However, other work has suggested that blacks are more likely than whites to be wary of specialty mental health services (Keating & Robertson, 2004) and less likely to accept antidepressants or counseling as appropriate or effective treatments for depression (Cooper, Gonzales, Gallo, et al., 2003). Cultural and traditional values, mistrust of providers and health care systems, the legacy of slavery, and the persistence of racism have been proposed as factors that enhance individual resiliency (Armstrong et al., 2008; Dobalian & Rivers, 2008; Musick, Koenig, Hays, & Cohen, 2008; Nelson, Balk, & Roth, 2010) while increasing barriers to traditional sources of mental healthcare (Nicolaidis et al., 2010; Paradies, 2006). Furthermore, across racial and ethnic groups, elderly adults often perceive depression as a personal responsibility and may be hesitant to raise concerns about depression with providers (Lawrence et al., 2006). These findings highlight the impact that help-seeking patterns and preferences for care may have on current disparities, particularly among elderly minority patients.

Despite variability in care preferences, many adults do report interest in talking about psychosocial problems (Lawrence et al., 2006), and some preferences for counseling style are consistent across racial/ethnic groups: desire for a provider that listens, understands, spends time with them, and manages differences between them (Mulvaney-Day, Earl, Diaz-Linhart, & Alegria, 2011). However, racial group differences persist with regard to perceptions about how providers can effectively express these qualities (Mulvaney-Day et al., 2011), highlighting how patients and providers could misinterpret each others' cues and how providers could communicate non-responsiveness to patients' frames of reference (Atdjian & Vega, 2005). Together, these findings support that miscommunication affects both optimal treatment planning and resource utilization.

In-depth qualitative research has highlighted that depression treatment plans must also account for how patients perceive their depression symptoms. For instance, whether patients have situational or biological explanatory models for depression can affect beliefs about how depression symptoms should be managed (e.g., lay or psychiatric referral; Karasz, 2005). Some of this work has focused on black adults and highlights that spiritual factors play a key role in beliefs about mental health etiology and treatment preferences (Millet, Sullivan, Schwebel, & Myers, 1996). In prior work, black adults have reported interpreting mental health problems in spiritual or other culturally sanctioned terms, and endorsing coping habits that stress self- and family-reliance, which may lead to lower help seeking behavior (Ortega & Alegria, 2006; Snowden & Yamada, 2005).

Qualitative methods have been used to a much more limited extent in examining general emotional adjustment to cancer among black patients (Matthews, Sellergen, Manfredi, & Williams, 2002). Findings support that spirituality and several other factors, including misperceptions about cancer, provider mistrust, financial barriers, and perceived stigma, influence emotional support-seeking behaviors in cancer care settings. These factors overlay race-related barriers to lung cancer care in general, likely impacting a broad range of lung cancer patient outcomes.

Directions for Future Research

Although black adults may not be at higher risk for depression in the general population, they might have higher prevalence of depression comorbid with lung cancer because of health disparities, such as being diagnosed with more extensive disease. Depression could be both a byproduct of lung cancer disparities as well as an exacerbating factor in already existing health disparities. Depression may further impact disparities in 1) cancer treatments because of its association with fear of treatments and confusion about medical recommendations and 2) cancer outcomes because of its association with worse survival in lung cancer. Any possible ameliorating effects that could result from treating depression may be less likely to occur in blacks because of disparities in mental healthcare. Mental health disparities may be contributing to cancer disparities in black patients.

Studying prevalence of depression and its treatment specifically in racial minority patients is critical because it may identify modifiable factors that could ultimately decrease the disparities in cancer outcomes. Large-scale, prospective data are needed to identify

depression prevalence and patterns of coping among black lung cancer patients. Such data will also allow us to examine whether the disproportionate disease burden among black males may be a risk factor for elevated depression, and whether depression plays a role in current models of racial disparities in lung cancer outcomes. Qualitative work, in turn, will also allow us to identify factors that may enhance psychological risk or resilience among patients who are at risk for poorer lung cancer outcomes.

Psychological needs are among the highest unmet needs identified by cancer patients. Given that widespread racial disparities in mental healthcare overlap with the unique challenges of depression in cancer, evidence-based practices are needed to effectively manage depression among black patients. More work is needed to increase provider awareness of addressing depression in black patients and to identify viable and culturally appropriate mental healthcare referral options -- particularly in settings with limited staff and financial resources. This work has the potential to reduce downstream effects of depression on quality of life, suboptimal cancer care, and possibly, survival.

Acknowledgments

This work was funded by grant 1U54 CA156732-01 to Drs. Elyse Park and Sheila Cannon.

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