Original Article

Health-Related Quality of Life and Pain Intensity Among Ethnically Diverse Community-Dwelling Older Adults

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Abstract:

Chronic pain is highly prevalent in older adults and often negatively associated with health-related quality of life (HRQoL). This study compared HRQoL, including physical health and mental health, in persons of differing ethnicities, and identified factors associated with pain intensity and HRQoL in ethnically diverse older adults. Older adults with chronic pain from four ethnic groups (African Americans, Afro-Caribbeans, Hispanics, and European Americans) were recruited from the Florida Atlantic University Healthy Aging Research Initiative (HARI) registry. The Medical Outcomes Study Short Form-36 (SF-36) was used to evaluate HRQoL, including functional status, emotional well-being, and social functioning. Of 593 persons in the four ethnic groups in the registry, 174 met the inclusion criteria (pain level of four or higher on an 11-point scale, lasting 3 months or longer). Among these 174, African Americans reported the highest level of pain intensity, followed by Afro-Caribbeans, Hispanics, and European Americans. Hispanics reported the highest physical health scores and the lowest mental health scores. In contrast, African Americans reported the highest mental health scores and the lowest physical health scores. Multivariate linear regression analysis revealed that ethnicity, lower physical health scores, and lower mental health scores were significantly ($p \leq .01$) associated with pain intensity. Understanding ethnic variations in response to pain intensity may address gaps in knowledge about HRQoL to reduce disparities in optimal care. Health care providers should consider ethnic norms and cultural diversity to provide optimal interventions for this population.

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INTRODUCTION

Chronic Pain Among Community-Dwelling Older Adults

In 2010, there were approximately 40 million older adults (age ≥65 years) in the United States (Administration on Aging [AOA], 2011). Of those 40 million older adults, 20% were minorities, including 8.4% African Americans and 6.9% persons of Hispanic origin (U.S. Census Bureau, 2010). The percentages of those from various ethnic subgroups are expected to grow faster than those of European Americans (Ng et al., 2014). Compared to other age groups, older adults are more likely to suffer from multiple chronic diseases and are particularly vulnerable to chronic pain (Park & Hughes, 2012).

Chronic pain, also called persistent pain, is typically defined as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage" (International Association for the Study of Pain, 1994, p. 209) that persists for at least 3 to 6 months (American Geriatrics Society [AGS], 2009). The prevalence of chronic pain increases steadily with age (Herr, 2002) and it is estimated that 58% to 70% of community-dwelling older adults suffer from chronic pain (AGS, 2009). Pain-related disorders in older adults often include musculoskeletal (e.g., osteoarthritis, osteoporosis, lumbar spinal stenosis; Cole, 2002; Herr, 2002) and peripheral neuropathy (Cavalieri, 2005).

Although chronic pain is highly prevalent in older adults (AGS, 2002, 2009), studies on chronic pain in ethnically diverse older adults are limited. Researchers (Baker, 2005; Baker & Green, 2005; Park, Hirz, Manotas, & Hooyman, 2013b; Reyes-Gibby, Aday, Todd, Cleeland, & Anderson, 2007) have reported on pain prevalence (Limaye & Katz, 2006; Reyes-Gibby et al., 2007) and pain intensity (Limaye & Katz, 2006; Reyes-Gibby et al., 2007). Researchers (Green, Baker, Smith, & Sato, 2003b) have also stated that pain research in the Hispanic population is underrepresented, and almost no studies have included Afro-Caribbean older adults in pain research (Park et al., 2013b; Park, Manotas, & Hooyman, 2013a). Due to its persistent nature and adverse outcomes, chronic pain often leads to physical disability (Stewart, Ricci, Chee, Morganstein, & Lipton, 2003), depression, anxiety, loneliness, and social isolation (McCaffrey & Freeman, 2003). All of these pain-related symptoms could negatively affect health-related quality of life (HRQoL) (Brown, Kirkpatrick, Swanson, & McKenzie, 2011; Gran, Festvag, & Landmark, 2009; Jameie, Shams-Hosseini, Janzadeh, Sharifi, & Kerdari, 2012; Lapane, Quilliam, Benson, Chow, & Kim, 2014).

Relationship Between HRQoL and Chronic Pain

HRQoL is defined as personal health status and refers to perceived well-being that includes physical, psychological, and social aspects (Revicki et al., 2000; Ware, Snow, Kosinski, & Gandek, 2000b). HRQoL is a multidimensional measure that assesses perceptions of functional limitations, and physical, emotional, and social well-being (Schmitt, Sands, Weiss, Dowling, & Covinsky, 2010). Chronic pain interferes with activities of daily life (Moons, Budts, & De Geest, 2006) and health outcomes, including physical and psychological symptoms (Dominick, Ahern, Gold, & Heller, 2004; Schlenk et al., 1998). Measuring HRQoL is an important focus of outcome studies in chronic pain populations (Elliott, Renier, & Palcher, 2003).

Although the relationship between HRQoL and chronic pain is multifaceted, subjective, and complex (Niv & Kreitler, 2001), researchers (Lapane et al., 2014) have identified the effects of *pain intensity,* rather than solely the *presence* of pain, on HRQoL, The findings indicated that pain intensity significantly reduced both physical and mental health components of HRQoL (Lapane et al., 2014). Understanding the effects of pain intensity on HRQoL across the spectrum of pain experience is important (Becker et al., 1997). A systematic review indicated that increased pain was inversely related to HRQoL, while reduced levels of pain intensity were related to improved HRQoL (Leadley et al., 2013).

Several studies (e.g., Kalfoss & Halvorsrud, 2009; Tse, Wan, & Wong, 2013b) have evaluated HRQoL in persons with chronic pain and concluded that older adults with chronic pain that is not effectively treated showed a significantly lower level of mobility and a greater inability to maintain activities of living—physical components of HRQoL—than those without chronic pain.

Pain intensity that causes physical disability (Viggers & Caltabiano, 2012) is also likely to lead to depression and contribute to low levels of HRQoL (Cavlak, Yagci, Bas, & Ekici, 2009; Viggers & Caltabiano, 2012; Yu, Tang, Kuo, & Yu, 2006). Chronic pain may be also associated with emotional distress in older adults who report higher levels of depression and anxiety, as well as lower levels of happiness (Dysvik, Lindstrøm, Eikeland, & Matvig, 2004; Elliott et al., 2003; Kreitler & Beltrutti, 2007; Sareen et al., 2005; Tse, Wan, & Vong, 2013a; Tse et al., 2013b). Researchers in a population-based study reported that higher pain intensity and anxiety resulted in lower levels of HRQoL (Borglin, Jakobsson, Edberg, & Hallberg, 2005). In a study of 596 older male participants with chronic knee and hip pain, African Americans were significantly less likely than