
ARTHRITIS, DEPRESSION, AND PAIN: A BIOBEHAVIORAL RELATIONSHIP IN OLDER AFRICAN AMERICANS

Tamara A. Baker, School of Public Health, University of Michigan

Keith E. Whitfield, Department of Biobehavioral Health, The Pennsylvania State University

Introduction

By the year 2030, more than 80% of the population 60 years of age and older will experience physical limitations due to a chronic illness (Williams, 1996). Hypertension, diabetes, macular degeneration, stroke, cancer, and arthritis are the most common chronic conditions that contribute to the physical limitations, poor health, psychological decrements, and social isolation experienced by many older adults (Bazargan & Hamm-Baugh, 1995; Rowe & Kahn, chap. 1, 1998; Verbrugge & Jette, 1994; Williams, 1996). A plethora of theoretical literature has identified these conditions and their relationship between physical and psychological health in majority populations. However, little research has been done to understand the influence these processes have among individuals from diverse ethnic groups. Considering that by the year 2030, the number of older minorities, 65 years of age and older, will increase by 226% compared to 79% among Caucasian elderly (Administration of Aging [AoA], 1999), it is critical to examine how specific chronic physical and psychological conditions affect older minorities, particularly older African Americans.

The significance and impact of religion, social support, familial issues, and caregiving in older African Americans has received a wealth of research interest (e.g. Burton, 1992; Kelley, 1993; Ruiz, 2000; Walls & Zarit, 1991). However, few studies have focused on the biological and behavioral implications of the concomitant relationship between arthritis, depression, and pain among this population of aged adults. This relationship has been extensively investigated in Caucasian adults (see Beckham, D'Amico, Rice, Jordan, Divine & Brook, 1992; Turner & McClean, 1989; Turner & Noh, 1988); however, there is a dearth of empirical research examining this biobehavioral relationship in African Americans. To date, few studies have focused on the impact arthritis has among older African Americans (e.g. Bazargan & Hamm-Baugh, 1995; Husaini, 1997; Husaini & Moore, 1990), the influence pain has on daily functioning of older African Americans (e.g. Johnson-Umezulike, 1999), and the effect arthritis and depression has among this group of older adults (e.g. Brown, Ahmed, Gary & Milburn, 1995; Okwumabua et al., 1997; Smith-Ruiz, 1985).

Thus, this article provides a conceptual overview examining the domains of arthritis,

depression, and pain in the general and African American populations. The article also addresses the paucity of research on this biobehavioral relationship among older African Americans, and why it is important to investigate this relationship in this population of older adults.

Indices of an Arthritic Condition

Characterized by intense pain, swelling, and limited movement in the joints (National Institutes of Health [NIH], 1998), arthritis is the most common physical condition (National Academy on an Aging Society, 2000; Staebler, 1989), affecting nearly 40 million Americans in the United States (Centers for Disease Control and Prevention [CDC], 1996). It is one of the leading causes of disability that affects mobility, and the ability to perform certain household tasks and work-related activities (Chamberlain, Buchanan & Hanks, 1979; Parker & Wright, 1995; Wright, Parker, Smarr, Schoenfeld-Smith, Buckelew, Slaughter, Johnson & Hewett, 1996). In 1990, approximately 2.8% of the U.S. population reported that arthritis caused increased rates of activity limitation. By the year 2020, this rate is expected to project to 3.6% (CDC, 1994). Data from the National Health Interview Survey (NHIS) show that African Americans (23.3%) report the highest rates of physical limitation due to arthritis, compared to Caucasians (17.5%) and Hispanics (22.2%) (CDC, 1994).

Arthritis is a chronic condition that has an impact not only on levels of physical functioning, but also an impact by age (see CDC, 1994; Gibbs, Hughes, Dunlop, Edelman, Singer & Chang, 1993; National Academy in an Aging Society, 2000). A recent report from the Administration on Aging (AoA) (1999) cited that 49% of older adults reported an arthritic condition, compared to 40% and 31% of the adults reporting hypertension and heart disease, respectively. Data from the 1990 NHIS also showed that 55% of adults 75 to 84 years of age were diagnosed with an arthritic condition, compared to 45% of individuals 65 to 74 years of age; 36.5% of adults 45 to 64 years of age; and 17% of individuals 16 to 44 years of age. Evidence from this survey clearly shows a substantial increase in reports of arthritic cases among those 65 years of age and older.

These reports show an obvious increase in the prevalence of arthritis among older adults. Yet, there is also a disproportionate number of reported arthritic cases by race. According to a 1994 CDC report, it was estimated that more African Americans (15.5%), compared to Caucasians (15.2%) and Hispanics (11.3%), were diagnosed with arthritis (as cited by the Arthritis Foundation, 1998). These statistics show continued disparities in the prevalence of chronic diseases by age and race (CDC, 1996).

Compared to aged Caucasians, older African Americans are disproportionately diagnosed with more chronic diseases, are likely to be diagnosed at a younger age, and are

more incapacitated from the disease (Bazargan & Hamm-Baugh, 1995). Research suggests that African Americans report higher rates of functional impairment and declining health (Peek, Coward, Henretta, Duncan & Dougherty, 1997) as a result of certain chronic conditions (Harper & Alexander, 1990, p. 201). This level of impairment is seen by the number of arthritic cases reported by African Americans, who account for approximately 4 million arthritic cases in the United States (anticipated increase to 7 million by the year 2020) (Arthritis Foundation, 1998). It's reported that the prevalence of arthritis among African Americans is greater than heart disease, chronic bronchitis, asthma, and diabetes (CDC, 1996).

With the anticipated increase in the number of reported chronic physical conditions, African Americans are also confronted with the potential onset of certain mental conditions that may exacerbate or coalesce with these chronic conditions (i.e. arthritis). In a recent study, Husaini (1997) found that older African Americans diagnosed with a medical condition reported more depressive symptoms than those who did not report a medical condition. Okwumabua, Baker and Pilgram (1997) concurred that medical illness was a significant predictor of depressive symptoms among older African Americans.

Despite these findings, there continues to be discrepancies in how depression and other behavioral and medical conditions are defined and diagnosed in older African Americans. Turnbull and Mui (1995, p. 78) postulate several reasons why it is often difficult to determine the prevalence of depression in older African Americans. First, focus has primarily been on the comparison of African Americans and Caucasians (e.g. Blazer, Landerman, Hays, Simonsick & Saunders, 1998; Roberts, Stevenson & Breslow, 1981); thus not accounting for the heterogeneity that occurs within the African American culture. Second, theoretical literature has neglected to examine why and how racial differences occur among the elderly. Third, there are methodological problems that often result in biased outcomes. Fourth, results from earlier studies focused largely on institutionalized samples (Markides, 1986; Stanford, 1999, p. 165). Williams and Fenton (as cited in Stanford, 1999, p. 161) agree that the extent of our knowledge of mental health in African Americans has been based on studies focusing primarily on the severely mentally ill and institutionalized. This concurs with Dressler and Badger's (1985) notion that African Americans are disproportionately diagnosed as being schizophrenic or severely depressed, are hospitalized sooner and longer for psychological disorders, and are less likely to receive behavior or psychotherapeutic treatment. Yet, despite the difficulties impinging research on depression in older African Americans, there is a continued need to assess the role this condition has in the lives of the older arthritic African American patient.

Depression and the Arthritic Patient

Depression is the most common and debilitating behavioral condition associated with arthritis (Beckham et al., 1992). Results from several studies suggest a linear relationship between depression and having an arthritis condition (e.g. Chamberlain, Buchanan & Kanks, 1979; Parker & Wright, 1995). Prevalence rates of depression among those with arthritis range from 19% to 50% (Beckham et al., 1992).

Research among the elderly shows that elevated rates of depression are a result of complex symptoms commonly associated with medical conditions such as arthritis, diabetes, lung trouble, stroke, and kidney disease (Berkman, Berkman, Kasil, Osteld, Cornoni-Huntley & Brody, 1986; Blazer, Burchett, Service & George, 1991; Goleman, 1988; Husaini, 1997). Several studies suggest that depressive symptoms among older African Americans are insurmountably related to arthritis and other chronic medical conditions (Husaini, 1997; Bazargan & Hamm-Baugh, 1995). Husaini and Moore's (1990) research concur that older arthritic African Americans report more depressive symptoms than older African Americans without arthritis.

A critical step in assessing the relationship between depression and arthritis is consistent diagnosis of these conditions. It has been found that diagnosis of depression in arthritic patients is difficult because both conditions (arthritis and depression) have similar symptoms (e.g. fatigue, poor appetite, weight loss). This commonality in symptoms can lead to misdiagnosis. Misdiagnosis is particularly common in older adults, because it is often difficult to discern if the symptoms are due to depression or are a result of other medical, psychological, or social changes (Lewinsohn, Rhode, Seeley & Fischer, 1991).

The Biobehavioral Relationship of Arthritis, Depression, and Pain

Another symptom of arthritis known to impact diagnosis and reports of physical and psychological functioning is pain. Research suggests that the pain experience is a reliable predictor of future pain experiences, is a common predictor to seeking medical care, and is related to disability and reports of depressive symptoms (Alcaron & Glover, 1994; Beckham et al., 1992; Hagglund et al., 1989). In a recent study, Fishbain, Cutler, Rosomoff & Rosomoff (1997) found that chronic pain was a potential causal agent to increased reports of depression. Parker and Wright (1995) also found that pain was a significant predictor of decreased pleasure and increased risk for developing depressive symptoms.

Similar to the relationship between depression and arthritis, Von Korff and Simon (1996) noted that when pain and depression are simultaneously diagnosed, it is difficult to disentangle symptoms associated with the physical illness and those com-

monly associated with the psychological condition. This suggests a reciprocal relationship between pain and depression (Williams & Schulz, 1992). This level of reciprocity is also observed in the relationship between arthritis, depression, and pain. In a recent study, Roberts, Matecnyck and Anthony (1995) examined the relationship between arthritis, depression, and pain in a sample of rheumatoid arthritic patients. Their results showed a significant relationship between end-stage joint disease (severe arthritis) and pain. These findings suggest that patients who experienced painful arthritic episodes are at a greater risk for developing depressive symptoms.

As noted, pain is cited as one of the most vexing outcomes of arthritis (Hagglund, Haley, Reivelle & Alcaron, 1989). Because pain is a personal and often culturally-based experience (Bates, 1987), it is important to identify how the patient perceives the painful experience and how he/she defines pain as associated with the arthritic condition.

The Influence of Culture

The paucity of empirical research on the relationship between arthritis, depression, and pain in older African Americans leads to an important question that is best asked by Jordan, Lumley and Leisen (1998): "...are ethnic or cultural differences in the psychosocial determinants of arthritis and pain adjustment worthy of study?" This question addresses the importance culture has in the assessment, treatment, and research on the physical and mental implications of this relationship in younger and older African Americans. Joseph White (as cited in Edwards, 1987), suggests that to understand American Africans obligates awareness of how the individual views the world, their experience as a person of color, and their cultural lineage. Defined as "a set...of shared behaviors and ideas that are symbolic, systematic, cumulative, and transmitted from generation to generation" (Airhihenbuwa, 1995, p. 103), culture identifies how physical and psychological health and symptoms are perceived, expressed, and experienced among a group of individuals (Bates, 1987).

In assessing the relationship between arthritis, depression, and pain we identify how certain factors (i.e. pain) are influenced by culture. Linn, Hunter and Linn (1982) cited pain as one of the most culturally specific variables that is related to a chronic medical condition. They applied this concept to examine individual differences in health perception, functional ability, and arthritis in older African American, Caucasian, and Cuban adults. Results from their study showed that African Americans reported more pain as a result of the arthritic condition and had more difficulty performing certain activities of daily living (Linn et al., 1982). These results are significant considering that many older African Americans self-rate their health based on the ability to perform certain activities of daily living (Harper & Alexander, 1990, p. 199).

Jordan et al. (1998) also found that African Americans reported pain as being more serious and characteristic of arthritis compared to Caucasians. However, in a recent study, Johnson-Umezulike (1999) found that older Caucasians (53%) experienced more pain compared to older African Americans (47%).

These inconsistencies suggest that culture may influence similarities and differences in many physical and mental health relationships, particularly the relationship between arthritis, depression, and pain in young and older minorities. Yet, the question remains why there is a negation in examining this conceptual relationship. Padilla and Perez (1995) connote that poor access to minority groups in clinics that specialize in rheumatic diseases, and lack of a universal coding scheme that defines certain minority groups, are reasons why there is a lack of scientifically-based research examining pain, depression, and arthritis among ethnic minorities.

These suggestions distinctly begin to address the need to understanding the importance of examining the physical and mental health processes within and between the various ethnic groups.

Physical and Psychological Health and Individual Differences

Because certain chronic physical and psychological conditions have different meanings and outcomes among various ethnic groups, *it is critical to examine the potential outcomes of disease processes within certain ethnic groups before making comparisons and inferences between the given groups* (Whitfield & Baker-Thomas, 1999). For example, it is critical to understand differences that occur within a group of aged African Americans before postulating why differences occur between this group and aged Caucasians. Because of the impact culture has on health, it is important to propose theories that assess how social, cultural, and environmental factors influence day-to-day experiences of older African Americans; how older African Americans define and interpret domains of physical functioning and psychological well-being; how they adhere to medical treatment; and how they respond to prevention/intervention techniques and develop effective coping strategies (Ruiz, 1995, p. 9).

Future Implications

This conceptual overview provided insight on the domains of arthritis, depression, and pain among majority populations. It also addressed the dearth of empirical research examining the relationship between arthritis, depression, and pain among older African Americans. This suggests that more research is needed to provide a scientific basis to understanding the physical and psychological implications of this relationship among this group of older adults. However, what is empirically known about the physical and psychological processes of many ethnic minorities is derived from re-

search on current cohorts of older and younger adults. This cross-sectional approach, however, does not capture changes that occur across the life span of many ethnic minority populations (Krause & Wray, 1991). With this experimental design, it is not understood how time, personal life experiences, social changes and interactions, and historical markers affect specific biobehavioral relationships among older African Americans. More scientifically-based and longitudinal research is needed to assess how social, environmental, and cultural indices influence these processes (i.e. conditions of arthritis, depression, and pain) from early adulthood to old age.

Yet, the question remains, where do we start in identifying this consequential relationship in older African Americans? Applying a biopsychosocial approach to understand the phenomena of this relationship may be a start in analyzing this and other biological and behavioral associations. Schoenfeld-Smith et al. (1996) applied this model to examine disability among those with rheumatoid arthritis. However, their study did not include older African Americans, making it difficult to generalize this theoretical approach. How can theories of physical and psychological functioning apply to older African Americans if there are a limited number of studies that include or focus specifically on older African Americans and the relationship between these and other biological and behavioral constructs?

A preliminary step to answering this question is to actively recruit older African Americans for more empirically-based research investigating the relationship between arthritis, depression and pain. Examining this relationship can lead to identifying and understanding how this population of older adults cope with these physical and psychological conditions, how they assess the disease process, and how they accept and react to intervention and prevention programs available to them. This proactive approach may increase the chance of those afflicted by physically and emotionally disabling conditions to remain active and independent.

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