The Effect of Race in Older Adults Presenting for Chronic Pain Management: A Comparative Study of Black and White Americans

Carmen Reneé Green, Tamara A. Baker, Edna M. Smith, and Yuka Sato

Abstract: In an aging society, chronic pain will increasingly have a significant impact on successful aging. Chronic pain may further differentially affect racial and ethnic minorities while diminishing their health and quality of life. This study addresses the potential differential effects of chronic pain cross-culturally in older Americans. A retrospective analysis of a group of subjects presenting for chronic pain management in a tertiary care multidisciplinary pain center was performed. This comparative study of black and white American adults (N = 2040) was done to determine whether there were differences in (1) psychologic functioning, (2) pain characteristics, (3) pain disability, and (4) comorbidities. The black American population had more depressive symptoms and symptoms of posttraumatic stress disorder when compared with the white Americans. These results suggest that chronic pain adversely affects the quality of life and health status of black Americans to a greater extent than white Americans before initial presentation for treatment at a multidisciplinary pain center. This study of older Americans with chronic pain showed significant differences in pain and health status based on race. It further demonstrates a difference in the chronic pain experience based on race in older Americans.

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Key words: Race and ethnicity, chronic pain, health status, aging, quality of life, sleep, quality of care.

Pain is one of many health domains known to have a major impact on quality of life (ie, physical, social, and emotional health). More specifically, chronic pain has a significant physical (eg, sleep disturbance, disability), psychologic (eg, anxiety, depression), and socioeconomic (eg, lost work productivity, healthcare costs) consequences.12,17,64,69 Despite the multitude of pain management modalities available to provide effective treatment, it remains undertreated.40,44,67 Physical functioning, psychologic well-being, social roles, and pain characteristics are important and necessary factors to consider when an individual initially presents for pain management. With the anticipated increase in the number of older adults in the United States,68 there is increasing concern regarding the impact that chronic pain will have on the abilities of older adults to function physically, psychologically, and socially in their environments.52 There is even more concern regarding the additional risk that chronic pain may have on individuals from racial and ethnically diverse populations.1,52,58

The literature documents that many older persons are not only vulnerable and suffer increased morbidity but may also be at an increased risk for the undertreatment of pain as well as an increased number of adverse side effects resulting from pain treatment.6,14,57 There are few studies that have attempted to address pain cross-culturally.5,13,48 Although there is limited information about the clinical pain experiences of black Americans, disturbing racial and ethnic disparities in pain management have been demonstrated.63,71,72 For example, Bernabei et al3 showed that the assessment and treatment of older black Americans living in nursing homes were less than those of elderly white Americans. Similarly, Cleeland et al9 found that racial and ethnic minority persons were at risk for the undertreatment of cancer pain. Overall, little is known about the quality of care that older black Americans with chronic pain receive. What is known about their quality of care is inconsistent and has raised more questions to be addressed.5,13 Furthermore, there is no information available regarding the characteristics of chronic pain in this population. Despite the quality of life implications, differences in the chronic pain experience remain poorly explored or defined among older adults in general and much less among older adults from diverse ethnic backgrounds in particular. The dynamics of chronic pain among diverse populations, including healthcare accessibility, health-care utilization patterns, and pain coping across various groups are not well understood.56 This is an important observation considering that in general black Americans are disproportionately diagnosed with more severe and...
debilitating illnesses. They are also more likely to be diagnosed at a younger age with a medical condition and are more incapacitated from disease than white Americans.\textsuperscript{11,25,35,45} These differences highlight the importance of evaluating the presence of chronic pain in black Americans. More specifically, the presence of chronic pain may further diminish the health status and quality of life of black Americans, particularly older black Americans, while contributing to increased morbidity.\textsuperscript{76} Despite these findings there remains a paucity of empirical research identifying the effects of chronic pain on the health status or quality of life in this population.

Given the importance of race and ethnicity in the healthcare experience, there is a lack of knowledge regarding the nature of symptoms associated with chronic pain, symptom duration, and the amount of disability due to chronic pain in a black American population. More importantly, it is unknown whether the increased psychologic perturbations commonly seen in patients with chronic pain are more pronounced in older black Americans. Comparisons between white and black Americans regarding their chronic pain experience have not been forthcoming.

There is a lack of research on race and ethnic-related variations in the treatment of chronic pain, which has important implications on health status and quality of life. The effect of aging in racial and ethnic minority Americans with chronic pain is unknown but may potentially lead to increased morbidity, thereby contributing to further disparities in their healthcare.\textsuperscript{34,37,38,49,52} Addressing potential differences in the chronic pain experience cross-culturally among older Americans is of particular public health concern. Therefore, a preliminary exploration of the influence of age and race on the initial presentation for chronic pain management was proposed. This study was designed to compare older persons who sought treatment at a tertiary care multidisciplinary pain center located in an academic medical center. More specifically, we wanted to determine whether differences existed between older black and older white Americans in (1) psychologic functioning as determined by the Beck Depression Inventory (BDI) and the Posttraumatic Chronic Pain Test (PCPT) (a screening test for posttraumatic stress disorder), (2) pain characteristics as determined by the McGill Pain Questionnaire (MPQ) and the Multidimensional Pain Inventory (MPI), (3) disability due to pain via the Pain Disability Index (PDI) and sleep questions, (4) comorbidities, and (5) factors that may influence coping (eg, litigation) and social behaviors (ie, alcohol and tobacco use).

**Methods**

**Participants and Methods**

The University of Michigan Health System (UMHS) Institutional Review Board (IRB) granted approval for this study. Written informed consent was waived by the UMHS IRB. This study involved a secondary analysis of a database of subjects with chronic pain. Included in this high quality data set are self-report pain and psychometric data on initial presentation for chronic pain management at a tertiary care pain center. The study sample included all black and white Americans with chronic pain older than the age of 50 years (ie, older adults) who presented to a multidisciplinary pain center. To understand the total pain experience, which includes understanding the relationship of pain between various social, physical, and mental health factors, only individuals 50 years of age and older were considered for this study of older adults. This is of particular importance because black Americans in general are diagnosed with more chronic debilitating illnesses and are diagnosed at a younger age compared with their white American counterparts.\textsuperscript{20,41,65} Income was determined via zip code information obtained from US census data.\textsuperscript{8}

**Measures**

Pain characteristics and disability were evaluated by using the MPQ and PDI. The sum of the rank values of each of 78 pain descriptors (based on its position in the word set) from the MPQ was used to provide an overall index of pain.\textsuperscript{30,39,43,44,50} The PDI scores were used to evaluate the impact of pain on the individual via summarization of the seven 11-point subscales (0, no disability; 10, total disability; maximum disability score, 70).\textsuperscript{36,70} The internal consistency assessment for the MPQ and the PDI were .816 and .842, respectively. Seven-point Likert scales were used from the MPI to assess pain severity, coping, and mood (0 = no pain, not at all successful, extremely low; 6 = excruciating, extremely successful, extremely high). Depression was assessed via the BDI.\textsuperscript{75} The PCPT included 6 questions on a 7-point Likert scale (0, not at all; 6, very much; maximum score, 36) and was used to evaluate for signs and symptoms consistent with posttraumatic stress disorder (PTSD).\textsuperscript{21,54,55,74} Scores ranged from 0 to 36, with higher scores indicating more symptoms consistent with posttraumatic stress. The internal consistency assessment of the PCPT measure among this group of older adults was .895. Seven-point Likert scales were also used from the MPI to measure control of pain (0, no control at all; 6, a great deal of control; maximum score, 36) and level of suffering (0, no suffering; 6, extreme suffering; maximum score, 36).\textsuperscript{4,7,39,59} Responses to questions regarding sleep, comorbidities, demographics, social habits, and satisfaction with pain care were also assessed.

**Statistical Analysis**

Descriptive statistics were used to characterize the sample population with respect to demographic information. Measures of association (odds ratios [ORs]) were calculated to compare disease and comorbidity frequency in each population. Parametric and nonparametric tests were used, as appropriate, to test the null hypotheses of no difference between the white and black American mean scores on the BDI, PDI, MPQ, and PCPT measures. Means and confidence intervals (CIs) were reported for questions rated on a Likert scale. Multiple
tests were done for hypothesis testing, but Bonferroni corrections were not performed. Categorical data were analyzed with 2 \times 2 tables and chi-square or Fisher exact test statistics. Statistical analyses were performed by using SPSS 10.0 statistical software (SPSS Inc., Chicago, IL). Statistical significance for all analyses were determined with the probability of a Type I error, \( P \leq .05 \).

**Results**

**Demographic Characteristics**

The total sample (\( N = 2040 \)) consisted of 92% white Americans (\( n = 1906 \)) and 8% black Americans (\( n = 164 \)). Sixty percent (\( n = 1242 \)) of the total sample consisted of women. When compared to white Americans, the black Americans were significantly younger (mean ± standard deviation years, 63 ± 10 v 60 ± 10; \( P < .001 \)). For both black and white Americans the majority of the subjects were married (52% v 70%) and were high school graduates (65% v 76%). Significant differences were found in annual household income (as determined by the zip code analysis from US census data), with the white Americans earning nearly $9000 more than the black Americans (\( P < .001 \)). Overall, a majority of both black and white Americans agreed that they enjoyed their work (69.7% v 58%). No differences were found in their involvement in legal action due to pain. Other demographic characteristics are provided in Table 1.

**Pain**

The black American subjects reported significantly more pain (3.41 ± 1.54 v 2.63 ± 1.37; \( P < .05 \)), level of suffering (5.11 ± 1.11 v 4.38 ± 1.28; \( P < .05 \)), and less control of their pain (1.20 ± 1.8 v 1.60 ± 1.62; \( P < .05 \)) than the white Americans by using a 7-point Likert scale. No significant differences were observed between white and black Americans on the MPQ. Table 2 provides a description of pain characteristics and intensity.

**Disability, Sleep, and Psychologic Functioning**

Table 3 shows that both groups reported significant disability in activities that affect quality of life. Analysis of the PDI scores showed higher disability among the black Americans when compared to the white Americans (42.35 ± 13.96 v 38.03 ± 14.76; \( P = .0032 \)). Although both groups reported a sleep disturbance, there were no significant differences between black and white Americans, with the majority reporting difficulties falling asleep (65% v 55%) and staying asleep (70% v 68%) when the 2 groups were compared. The PCPT measure showed that the black Americans were at an increased susceptibility for PTSD compared with the white Americans (2.16 ± 11.78 v 6.31 ± 8.89; \( P < .0001 \)). Overall, both the black and white American populations reported a substantial number of depressive symptoms. Comparatively, the black Americans reported more depressive symptoms than the white Americans did as determined by the BDI.
**Table 2. Patient Report of Pain Character, Disability, and Intensity**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>BLACK AMERICANS (N = 164)</th>
<th></th>
<th>WHITE AMERICANS (N = 1906)</th>
<th></th>
<th>Z STATISTIC</th>
<th>P VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPO</td>
<td>25.37 ± 14.96 23.05, 27.68</td>
<td></td>
<td>23.62 ± 12.15 23.08, 24.17</td>
<td>1.54</td>
<td>.1231</td>
<td></td>
</tr>
<tr>
<td>Patient report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain score at present</td>
<td>3.41 ± 1.54 3.2, 3.6</td>
<td></td>
<td>2.63 ± 1.37 2.5, 2.7</td>
<td>5.94</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Pain score at highest</td>
<td>3.64 ± 2.00 3.1, 4.1</td>
<td></td>
<td>3.98 ± 2.04 3.8, 4.1</td>
<td>1.33</td>
<td>.185</td>
<td></td>
</tr>
<tr>
<td>Pain score at lowest</td>
<td>4.50 ± 1.37 4.2, 4.7</td>
<td></td>
<td>4.06 ± 1.20 4.0, 4.1</td>
<td>3.85</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Suffering with pain</td>
<td>5.11 ± 1.11 4.9, 5.3</td>
<td></td>
<td>4.38 ± 1.28 4.3, 4.4</td>
<td>7.18</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Control over pain</td>
<td>1.20 ± 1.84 .90, 1.5</td>
<td></td>
<td>1.60 ± 1.62 1.5, 1.6</td>
<td>4.20</td>
<td>&lt;.001</td>
<td></td>
</tr>
</tbody>
</table>

* Items from MPI.
† 0 = no pain, 6 = excruciating.
‡ 0 = no suffering, 6 = extreme suffering.
§ 0 = no control at all, 6 = a great deal of control.

(20.22 ± 12.46 v 15.32 ± 11.33; P = .0127). Table 4 shows mood, coping, and other psychologic variables.

**Comorbidities**

Differences were observed in the prevalence of asthma (P = .036), chest pain (P = .058), gastric ulcer (P = .038), and high blood pressure (P < .0001) between the black and white Americans. In addition, the odds ratio (OR) showed significant associations for asthma (OR, 1.68; 95% confidence interval [CI] 1.03, 2.62), gastric ulcer (OR, 1.53; 95% CI 1.02, 2.29), and high blood pressure (OR, 1.90; 95% CI 1.36, 2.65), which suggested that black American patients were at least 50% more likely to have these conditions than white American patients. Although not statistically significant, the differences in the prevalence of dizziness (P = .065) and headache (P = .067) approached statistical significance. Fig 1 provides an illustration of these comorbidities, with ORs.

**Discussion**

The effects of chronic pain vary substantially at the individual level. Two persons with the same disease activity can differ greatly in the level of pain they report and its impact on their lives. Although the literature documents the benefits of optimizing pain control, the impact of chronic pain on health status and quality of life has not been extensively investigated in older Americans, particularly among older Americans across various racial and ethnic populations. More specifically, the lack of chronic pain research in this population can contribute to further health care disparities, particularly among older black Americans. For purposes of this study, we have chosen to evaluate individuals older than 50 years of age because chronic diseases are noted in black Americans at an earlier age.20,41,47,61

The literature suggests that there are distinct differences in the healthcare experience based on race and ethnicity.66 The medical advances and interventions that have allowed white Americans increased longevity and enhanced quality of life have not been uniformly translated into improvements in the health status and outcomes of black Americans.52 More importantly, differences have been noted in the access and utilization of black Americans to specialty medical care as well as out-

**Table 3. Comparison of the Physical, Social, and Psychologic Disability Due to Chronic Pain**

<table>
<thead>
<tr>
<th>PSYCHOMETRIC VARIABLES</th>
<th>BLACK AMERICANS</th>
<th>WHITE AMERICANS</th>
<th>Z STATISTIC</th>
<th>P VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>111</td>
<td>1232</td>
<td>.85</td>
<td>.0032</td>
</tr>
<tr>
<td>PDI*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient reports pain limits:‡</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>135</td>
<td>1716</td>
<td>1.05</td>
<td>.296</td>
</tr>
<tr>
<td>Ability for recreation</td>
<td>139</td>
<td>1728</td>
<td>1.96</td>
<td>.050</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>137</td>
<td>1743</td>
<td>.650</td>
<td>.512</td>
</tr>
<tr>
<td>Ability to work</td>
<td>119</td>
<td>1376</td>
<td>2.70</td>
<td>.007</td>
</tr>
<tr>
<td>Ability for household activities</td>
<td>140</td>
<td>1738</td>
<td>3.96</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Changes your relationship</td>
<td>136</td>
<td>1659</td>
<td>4.64</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

* Range = 0-70 where 0 indicates no disability.
† Items from MPI.
‡ 0 = not at all, 6 = very much.
§ 0 = no change, 6 = extreme change.
comes even when their socioeconomic status is similar to that of white Americans.² There are also notable differences in the quality of medical care received by black Americans, which has persistently been shown to be less favorable than for white Americans.²

Existing evidence shows the persistence of health disparities observed between black and white Americans despite similar health insurance coverage and social stratification.³¹ The absence of health insurance and poor health insurance coverage may contribute to poor health for both populations but may be more problematic for older black Americans.¹⁵,⁴⁴,⁵³,⁵⁸ In this study we wanted to identify the impact of an individual’s race in older persons on the chronic pain experience by comparing a group of older black Americans and older white Americans who presented for chronic pain management.

Our results show distinct differences in income and education, with black Americans reporting lower incomes, completing less years of formal education, and being younger than the white Americans. Yet, the literature consistently shows differences in healthcare based on race and ethnicity even when their insurance is similar. For instance, in a study of Medicare beneficiaries, older black Americans were more likely to rate their health as poor when compared to older white Americans who reported their health as fair.¹⁰ Our findings corroborate and extend these results, in which older black Americans with chronic pain reported more pain, psychologic morbidity, and physical disability than older white Americans with chronic pain did. Differences in education or income were not controlled for in this study. Although the literature on healthcare disparities has shown persistent differences (even when income and education were similar), our interest was to perform an analysis of persons presenting for chronic pain management at a pain center. Clearly, further study of a larger population of black Americans with chronic pain is necessary to evaluate whether differences in income and education account for the differences we found in this study.

On initial presentation, the pain scores of the subjects were statistically higher for black than for white Americans (3.41 vs 2.63; \( P < .05 \)) on a 7-point scale. In a meta-analysis of 65 studies of subjects presenting for treatment at multidisciplinary pain centers, Flor et al¹⁹ presented extensive data on 3089 patients with back pain. Although they demonstrated that treatment in a multidisciplinary pain center was effective, they did not provide information on the subjects’ self-report pain scores or a discussion of the impact of race, ethnicity, or age. Despite these limitations, which are coherent to any meta-analysis, they provided important information on treatment outcomes. Conversely, our study focused on the initial presentation of older black and white American subjects presenting with many different types of pain and not on the effects of treatment. This suggests

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**Table 4. Mood, Sleep, and Ability to Cope With Pain**

<table>
<thead>
<tr>
<th>PSYCHOMETRIC VARIABLES</th>
<th>BLACK AMERICANS</th>
<th>WHITE AMERICANS</th>
<th>( P )</th>
<th>( \text{STATISTIC} )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( N )</td>
<td>( \text{MEAN} \pm \text{SD} )</td>
<td>( 95% \text{ CI} )</td>
<td>( N )</td>
</tr>
<tr>
<td>PCPT</td>
<td>83</td>
<td>12.16 ± 11.78</td>
<td>9.58, 14.73</td>
<td>798</td>
</tr>
<tr>
<td>BDI</td>
<td>36</td>
<td>20.22 ± 12.46</td>
<td>16.00, 24.44</td>
<td>491</td>
</tr>
</tbody>
</table>

Patient report*

Overall mood† | 142 | 3.14 ± 1.67 | 2.86, 3.42 | 1726 | 2.95 ± 1.43 | 2.88, 3.02 | 1.40 .1621  |

How irritable§ | 140 | 3.16 ± 1.81 | 2.84, 3.48 | 1732 | 2.51 ± 1.64 | 2.43, 2.59 | 4.08 <.0001  |

How anxious‡ | 144 | 3.35 ± 1.89 | 3.04, 3.66 | 1750 | 2.69 ± 1.76 | 2.43, 2.77 | 4.27 <.0001  |

Ability to cope | 143 | 3.94 ± 1.51 | 3.68, 4.20 | 1721 | 3.58 ± 1.56 | 3.50, 3.66 | 2.50 .012    |

Rested in the morning | 149 | 2.10 ± 1.59 | 1.84, 2.36 | 1777 | 2.47 ± 1.55 | 2.40, 2.54 | 2.96 .0031  |

How fatigued or tired** | 142 | 4.33 ± 1.45 | 4.33, 4.57 | 1757 | 3.93 ± 1.45 | 3.86, 4.00 | 3.53 .0004  |

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*Items from MPI.

†0 = extremely low, 6 = extremely high.

‡0 = not at all irritable, 6 = extremely irritable.

§0 = not at all anxious, 6 = extremely anxious.

¶0 = not at all successful in coping, 6 = extremely successful.

*0 = not at all tired, 6 = extremely tired.
the need for prospective studies to evaluate these factors in older Americans in general and older black Americans in particular. These results are also consistent with the work of McCracken et al,48 who noted that blacks and whites experience chronic pain differently. In their study, blacks reported higher pain severity as well as greater physical and psychosocial disabilities. Overall, our preliminary analysis suggests that older black Americans with chronic pain have greater impairment in their health status and quality of life than white Americans on initial presentation for chronic pain management.

One of our most consistent findings was the difference found in depressive symptoms between the 2 populations. More often than not, symptoms of depression are often subtle and may be easily dismissed, thereby contributing to further disability in older persons with chronic pain.16,22,23,33 Because black Americans are often reluctant to seek mental health care, they may experience substantially more impairment (eg, increased psychologic morbidity and impaired social functioning) due to chronic pain.24,63 Another major issue, particularly among older black Americans, is their compliance to medical services and the use of formal services.63 Walls and Zarit73 contend that even though formal services are available, many individuals from racially or ethnically diverse groups do not readily accept services provided through many formal agencies (eg, healthcare professionals). Their research suggests that the older adult does not have an emotional attachment to these formal agencies as with other agencies (eg, the church). Therefore, utilization of the formal service agencies may go untapped by many older black Americans.

This finding emphasizes the importance of adequate assessment and treatment options of mental and physical health in older black Americans with chronic pain. Despite this need, there remains disturbing racial, ethnic, and age related disparities in pain management. In a survey of 13,625 elderly nursing home residents with cancer pain, Bernabei et al3 showed that black Americans were 63% more likely than white Americans to receive no pain medications. Up to 40% of black Americans reported daily pain, and 25% received no analgesics.4 Black Americans may also have less access to treatment.42 In an analysis of New York City pharmacies adjusted for crime rates, Morrison et al51 showed that pharmacies in black American neighborhoods were significantly less likely to stock opioid analgesics than those in predominately white American neighborhoods. Our results suggest the need for a prospective evaluation of variability in pain assessment and the provision of pain care. These differences may contribute to the health status and quality of life discrepancies observed in this study of older black Americans with chronic pain. The confounding factors of physician variability, suboptimal treatment strategies, and decreased ability to obtain medications for the management of pain may also lead to diminished health in older black Americans living with chronic pain.

Coping skills, social learning, and attitudinal differences influence how an individual tolerates pain.19,27,37,42,52,60 It is, however, unknown whether there are differences in the way black and white Americans cope with chronic pain and, if so, how this may influence their health. We have shown that black Americans reported less control over their pain and less ability to cope with their pain. In light of the limited measures used in this study to assess coping, further study is necessary to evaluate whether coping differences based on race in the context of known differences in healthcare access and healthcare provider differences may affect pain management outcomes. To date, no study has specifically addressed the management of chronic pain and coping mechanisms in older black Americans and its influence on successful aging.

Considerable variability in physician decision making has been noted on the basis of race, age, and gender.3,46,62,66 Green et al28 demonstrated considerable variability in physician treatment of pain based on the type of pain and the patient’s gender by using clinical vignettes. Variability in physician management of chronic pain may have important implications especially for racial and ethnic minorities.26,29 It follows that variability in access to treatment as well as physician decision making may also lead to differences in outcome. Our results highlight that there are differences on the initial presentation of older black Americans, which may be due in part to variability in treatment.

Differences in the presence of comorbidities were also found between the 2 populations. A higher prevalence of high blood pressure was found in our black American sample. This is particularly important because associations have been made between active coping, hypertension, and bodily pain in a normative sample of black Americans without chronic pain.2,37 We were surprised to find that the older black Americans in this study reported an increased prevalence of asthma, chest pain, and gastric ulcer when compared with their white American counterparts. Although not statistically significant, the prevalence of headaches in older black Americans approached significance (P = .067) and warrants further exploration. The etiology of the increased prevalence of asthma, chest pain, gastric ulcer, and high blood pressure in this population is unclear. However, differences in stress management, coping styles, or other environmental factors could attribute to these differences particularly when headache is considered.

There are several potential limitations of this study. First, this was a retrospective analysis of a database that was developed primarily for clinical care on initial presentation. The information available with this secondary database did not provide a clinical diagnosis of the patient’s pain complaint via either medical record or self-report. Second, race (ie, phenotype) and ethnicity are not synonymous. For both the white and black Americans in this study, the race was assigned by an admissions clerk and as such may not reflect how an individual would self-identify himself/herself. Third, self-report, representativeness, and nonresponse are potential inherent sources of bias. The questionnaires were completed confidentially to reduce self-report bias. Another concern is that the data from the patients used in this
study may reflect different referral patterns to the pain
center. Last, we wished to determine global rather than
individual differences in this chronic pain experience.
Yet, we recognize that most survey instruments can be
criticized for their lack of sensitivity to cultural differ-
ences or lack of validity in an aging population, although
we chose generic measures with good reliability and va-

From a public health perspective, there are tremen-
dous benefits to clarifying some of the complexities of
managing chronic pain in a vulnerable population of
older Americans. We have established that there are dif-
ferences in the chronic pain experience based on race
and ethnicity in older persons. This study provides a plat-
form for developing large population–based research to
carefully evaluate the influence of age, race, and ethnic-
ity on chronic pain management. We have provided new
knowledge about discrepancies in the health status and
quality of life of an older black American population
with chronic pain. Future studies are needed to obtain
prospective data between older black and white Ameri-
cans matched by gender and age to identify whether
there are substantive differences in pain severity, psy-
chologic morbidity, sleep disturbance, physical disability,
and social functioning.

Acknowledgments

We thank the patients who participated in this study.
We thank the faculty and staff of the Department of
Anesthesiology and Multidisciplinary Pain Center, espe-
cially Jan Bachman, PhD, Frankie LaPorte, BS, and Tamika
Washington, BA, as well as the Michigan Center for Ur-
ban African American Aging Research for their assistance
with this project. We also thank Marcus A. Hatter, MD,
for his inspiration and ongoing support.

References
1. Allison JJ, Kiefe CI, Centor RM, Box JB, Farmer RM: Racial
differences in the medical treatment of elderly Medicare
patients with acute myocardial infarction. J Gen Inter Med
11:736-743, 1996
experience. Ethn Dis 2:63-83, 1992
elderly patients with cancer: SAGE Study Group.
elderly patients with cancer: SAGE Study Group—Systematic
assessment of geriatric drug use via epidemiology. JAMA
279:1877-1882, 1998
4. Bernstein IH, Jaremko ME, Hinkley BS: On the utility of the
West Haven-Yale Multidimensional Pain Inventory. Spine
20:956-963, 1995
5. Bonham VL: Race, ethnicity, and pain treatment: Striving
to understand the causes and solutions to the disparities in
6. Brennan TA, Leape LL, Laird NM, Hebert L, Localio AR,
Lawthers AG, Newhouse JP, Wiener PC, Hiatt HH: Incidence
of adverse events and negligence in hospitalized patients:
Results of the Harvard Medical Practice Study I. N Engl J Med
324:370-376, 1991
7. Bucher L: Evaluating the affective domain: Consider a
Likert scale. J Nurs Staff Dev 7:234-238, 1991
8. Census US Bot, 1990 Census of Population and Housing:
Summary Tape File 3B, Table P80A. Census CD + Maps: East
Brunswick, NJ, GeoLytics, 1990
and treatment of pain in minority patients with cancer: The
Eastern Cooperative Oncology Group Minority Outpatient
10. Collins K, Hall A, Neuhaus C: US Minority Health: A Chart-
11. Corran TM, Farrell MJ, Helme RD, Gibson SJ: The classifi-
cation of patients with chronic pain: Age as a contributing
12. Crook J, Rideout E, Browne G: The prevalence of pain
14. Erstad BL, Meeks ML, Chow HH, Rappaport WD, Levinson
ML: Site-specific pharmacokinetics and pharmacodynamics
of intramuscular meperidine in elderly postoperative pa-
15. Farley PJ: Who are the underinsured? Milbank Q Health
Society 63:476-503, 1985
16. Ferrell BA, Ferrell BR: Principles of pain management in
older people. Compr Ther 17:53-58, 1991
17. Ferrell BR, Griffith H: Cost issues related to pain manage-
ment: Report from the Cancer Pain Panel of the Agency for
Health Care Policy and Research. J Pain Symptom Manage
9:221-234, 1994
18. Ferrell BR: The impact of pain on quality of life: A decade
19. Flor H, Turk DC, Scholz OB: Impact of chronic pain on the
spouse: Marital, emotional and physical consequences. J Psy-
chosom Res 31:63-71, 1987
20. Ford ME, Tilley BC, McDonald PE: Social support among
21. Geisser ME, Roth RS, Bachman JE, Eckert TA: The rela-
tionship between symptoms of posttraumatic stress disorder
and pain, affective disturbance and disability among pa-
tients with accident and non-accident related pain. Pain 66:
207-214, 1996
22. Gibson MC, Schroder C: The many faces of pain for older,
in older persons. Disabil Rehabil 16:127-139, 1994
24. Gibson SJ, Helme RD: Cognitive factors and the experi-
cence of pain and suffering in older persons. Pain 85:375-383,
2000
63. Ruiz P, Venegas-Samuels K, Alarcon RD: The economics


