Racial, Ethnic, and Sociodemographic Disparities

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INTRODUCTION

Unprecedented scientific advances have led to a better understanding of pain mechanisms and the ability to alleviate pain and suffering. Yet the literature continues to document the widespread and significant undertreatment of pain (especially for racial and ethnic minorities). Numerous studies describe stark differences in health and health care based upon race, ethnicity, gender, socioeconomic status, and age (1–3).

Overwhelmingly, the literature provides evidence for inferior care of minorities. There is also considerable evidence that acute, chronic, and cancer pain have unique health implications in minority patients, low-income individuals, elderly persons, and women that are often unrecognized or overlooked (4–11). Furthermore, the pain complaints of racial and ethnic minorities receive less attention than those of Caucasians (regardless of the type of pain), putting them at significant risk for inferior quality pain care (12–15). Thus, several ethical challenges essential for health care planning in an increasingly aging and diversifying society exist (16,17).

Like many chronic illnesses, chronic pain (i.e., nonmalignant or benign pain greater than equal to six months) significantly impairs overall health and well-being (18–20). However, most of the literature on disparities fail to address this chronic condition and when it is addressed, the focus is on acute and cancer pain (21–23). In addition, age, ethnicity, and sociodemographic factors may make certain populations more vulnerable to chronic pain (24). There is limited literature to guide us regarding the presenting symptoms, pain duration, and disability due to chronic pain, but it suggests that the health problems commonly seen in chronic pain patients [e.g., depression, posttraumatic stress disorder (PTSD)] are more problematic in minority and underserved populations (25,26). Because there is often a close association between race or ethnicity and income, living in poverty is an additional risk factor for poor health due to pain as well as inferior quality pain care (27). Overall, guidelines designed to improve and reduce barriers to chronic pain care have not adequately addressed disparities in pain care for potentially underserved and vulnerable populations or the ethical implications for disparate pain care (28–31). This chapter primarily focuses on disparities in chronic pain while providing an overview of disparities from an ethical perspective. More specifically, this chapter will address:

- The consequences of pain on overall health and well-being in an ethnically diverse population.
- The consequences of disparities in the context of pain.
The epidemiology of pain in an ethnically diverse population.
- Pain assessment and treatment in an ethnically diverse population.
- Barriers to accessing quality pain care in an ethnically diverse population.
- The role of provider variability on pain care disparities.
- Pain, disparities, and policy.

DEFINING HEALTH AND DISPARITY

The World Health Organization (WHO) defines health as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmities” (32,33). It also proclaims that health is a basic human right (34,35). It follows that chronic pain is a unique disease that impacts multiple health domains: physical (e.g., sleep), psychological, and social functioning, while causing undue suffering (25,26). When compared with the general population, chronic pain patients have significantly more depression (independently increasing morbidity). In addition, increased anxiety and PTSD symptoms as well as social isolation are often associated with chronic pain (25,26). In the presence of chronic pain, minorities are more likely to have PTSD and depression than Caucasians. In addition, they are also less likely to seek counseling to treat these symptoms.

An operational definition of a disparity refers to “differences in the disease burden, illness, injury, disability, or mortality experienced by one population group in relation to another or clinical decisions or outcomes associated with disadvantage for one group as compared to another” (36,37). The disparities literature primarily focuses on Black Americans, Hispanics, and Native Americans in comparison to Caucasians. However, significant disparities in health and those, which are based upon socioeconomic status and geographic location, are well described. Nonetheless, mortality rates are significantly higher for minority persons at all ages as well as for economically disadvantaged people (38–40). There is also evidence for racial and ethnic differences in the prevalence, morbidity, and mortality associated with cardiac disease, diabetes, and other chronic illnesses as well as in the medical care received for these conditions, thereby presenting significant ethical concerns (16,41,42).

Health insurance is considered the great equalizer by ensuring access to medical care and thereby improving health (27). Yet, more than 45 million Americans are currently uninsured, with racial and ethnic minorities disproportionately making up over 50% of the uninsured (43). Currently, nearly one-third of Americans self-identify as a member of a minority population (i.e., African-American, Native American, or Hispanic) and this percentage will increase to 50% by the year 2050 (44–46). Minorities and uninsured persons are more likely to use the emergency department for health care (including acute exacerbation of chronic pain) and to be hospitalized for preventable conditions due to diminished access to quality resources (47). The unfortunate truth is that untold millions of Americans are also underinsured, limiting their access to care and treatment. This problem reduces access for the chronic pain patients who have limited or no coverage for physical therapy or counseling services that have demonstrated efficacy. Another clear example is the injured worker who must pay for health care first and then seek reimbursement from the insurer (e.g., workman’s compensation). Thus, the inability to access quality health care as well as to receive treatment to relieve pain and suffering is fundamentally an ethical and policy issue.
Ultimately, the goal for using health services is to maintain and improve health. Many erroneously believe that health care disparities would no longer exist when socioeconomic status and health insurance coverage are similar. However, racial and ethnic disparities in health and health care exist for patients with comparable insurance and the same illness (48,49). Studies also suggest that racial and ethnic minorities, who are Medicare beneficiaries are more likely to rate their health as poor when compared to similar Caucasians (49). The issue of disparities in health due to pain and the undertreatment of pain fits into a troubling overall health picture for minorities, who generally receive lower quality health care (and pain care) than Caucasians, even when their income, insurance, and medical conditions are similar.

HISTORY

Although race and ethnicity are often used interchangeably, race is essentially a social construct that describes people based upon a set of shared physical characteristics that is often associated with real or perceived economic power (50). The literature has the tendency to lump all minorities into one group, although there is growing evidence for intrarace differences in health care experience (24). One challenge to eliminating disparities is confronting this country’s problematic and politically sensitive racial relations, when skin color could determine an individual’s quality of life, health, occupation, and residence (51–53). More specifically, race has determined the quality of medical care. The federal government (e.g., courts and congress) addressed educational, employment, and housing inequities via the 1964 Civil Rights Acts. Indeed, implementing Medicaid and Medicare in the mid-1960s made enormous differences in reducing this gap (36,37). Although other factors (e.g., genetics, behaviors, and socioeconomic factors) also determine a population’s health, persistent health inequities prompted the U.S. Department of Health and Human Services to establish a national goal to eliminate health disparities by the end of this decade (consistent with the decade of pain research and control). Congress again provided leadership by legislatively mandating the Institute of Medicine (IOM) report entitled, “Unequal treatment: Confronting racial and ethnic disparities in care” and the National Center on Minority Health and Health Disparities at the NIH (36,37), compelling evidence for disparities in health and the system were detailed in the IOM report. The document speaks to the ethical dilemma presented by disparate care, stating that “racial and ethnic disparities in health care occur in the context of broader historic and contemporary social and economic inequality and because they are associated with worse outcomes in many cases, are unacceptable” (36,37). Among the many overarching goals proposed for the nation’s research agenda in Healthy People 2010 was improving health and eliminating disparities in health care (54,55). Unfortunately, scholarly documents discussing unequal treatment and disparities in health care have not provided information about the chronic pain experience. Yet, the impact of chronic pain on the estimated one in six Americans (especially women, minorities, and the elderly) was largely overlooked in Healthy People 2010 and in the IOM report. Furthermore, most research studies examining health status failed to examine the impact of chronic pain and did not include an ethnically diverse population.

EPIDEMIOLOGY OF PAIN

Globally, chronic pain is the third largest health problem. In fact, the WHO proclaimed pain relief as a human right (56,57). With more than 75 million
Americans suffering from chronic pain, poor pain management crosses socioeconomic, geographic, gender, and racial lines. As Americans live longer, they are more likely to suffer from painful chronic conditions (58,59). Conditions such as arthritis and diabetes are also more prevalent among minorities. Pain leads to over 700 million lost workdays and greater than $100 billion in health care expenditures annually (60,61). More specifically, chronic pain is the second leading cause for all physician visits and the most frequent cause of disability in the United States (62,63). Without necessary improvements in the quality of chronic pain management, the increasing prevalence of chronic pain (especially in an aging and diversifying society) will have devastating socioeconomic and health consequences (20,60). From both a public health and ethical perspective, there are tremendous benefits to understanding the effects of chronic pain on both the individual and society that can be translated into improved health and medical care for all.

Women, minorities, and economically disadvantaged persons suffer substantially more impairment due to chronic pain (e.g., sleep perturbations, depression, and physical disability) (60,64). Although women enjoy a longer life expectancy, they have increased disability and diminished quality of life as well as an increased prevalence of chronically painful conditions (e.g., interstitial cystitis, fibromyalgia, and lupus) compared with men (65,66). These stark gender-related disparities are more pronounced in racial and ethnic minority women, providing evidence that both gender and race are important factors in preserving health and wellness (2,67). Thus, it is essential when assessing pain that racial, ethnic, and gender identifiers be included such that outcomes are monitored and interventions can be designed to reduce and eliminate disparities. The failure to do so does not respect the value of each individual.

BARRIERS TO QUALITY PAIN CARE

Although we have the ability to assess and treat pain, clinicians frequently confront complex ethical and moral dimensions that impact patients. Pain assessments by professionals are often lower than the patient’s self-report (especially for minority patients), while mild mood disorders are more likely to be attributed to major psychological disturbances in minority people (68–71). The way that women and minorities communicate their pain complaints may reduce the likelihood that they receive adequate attention.

PAIN ASSESSMENT AND TREATMENT

The cornerstone for quality pain care is pain assessment, and the gold standard for pain assessment remains patient self-report (72,73). Chronic pain patients with similar disease activity often may report differences in pain intensity and its impact on their lives (74,75). Differences in sex hormones, central nervous system functioning, pain learning, culturally imposed factors, pain care beliefs, past experiences, socioeconomic status, and social roles may predispose women and minorities toward responses and actions that increase the threat of pain (76–78). Altogether, these are important considerations, because minorities and women often report increased pain intensity, depression, and anxiety in response to chronic pain (25,26,79). Yet, these factors are not consistently taken into account when assessing pain. The failure to do so when assessing pain creates paternalism that prevents the patient from being a full
partner in their health care, implying that the clinician makes decisions without taking into account the patient’s experience.

Being a full health care partner incorporates the basic ethical principles: justice, respect for autonomy, nonmaleficence, and beneficence (80,81). Justice refers to giving patients what they deserve whereas autonomy asserts that an informed patient has a right to a self-chosen plan. Nonmaleficence is essentially the obligation to avoiding harm whereas beneficence is the active obligation to do good. When factors that influence the pain experience are not considered in assessing the impact of pain on an individual, it does not promote ethical or just practice. Furthermore, it prevents the patient from being fully informed about their condition preventing them from being a full partner in their health care, and thereby leading to potential harm (in terms of diminished health) as well as devaluing their basic rights (42,82).

There is still little known regarding the inciting event, presenting symptoms, pain duration, and disability due to chronic pain in an ethnically diverse population, but there is evidence that the disease course varies based upon gender and race (83). Because chronic pain impacts physical, social, and emotional health, it is important to assess all health domains. Overall, minority persons report significantly more comorbidities, higher pain scores, increased pain severity, more suffering, and less control of pain than Caucasians across the age continuum (25,26). Minorities (regardless of age and gender) also report increased physical disability and more problems with sleep as well as significantly more depression (25,26). They also report more symptoms consistent with PTSD and anxiety than Caucasians (84–86). What remains unclear is whether these findings reflect under-treatment, over-reporting, differences in pain sensitivity, or some combination of these factors (87). Despite emerging research suggesting the multidimensional impact of chronic pain, there is a dearth of longitudinal research specifically addressing the impact of pain on racial and ethnic minorities and women.

Physician patient congruence (e.g., gender and race) may improve the quality of medical care (88). It is interesting that clinicians routinely describe the patient’s phenotype (i.e., race) when presenting the patient’s chief complaint, but we rarely do this for the health care team delivering their care (89). Yet, the risk for cultural misinterpretations is increased for minority patients (who are often cared for by nonminority clinicians) (90–93). Even when there is racial and gender congruence, there is often noncongruence between the patient and team based upon socioeconomic status; again, this lack of congruence contributes to problematic communication and the potential for cultural misinterpretations (94–96). Because it is often not feasible for every patient to have a clinician that looks like them, the need for culturally sensitive care is critically important. From an ethical perspective, each clinician has the duty to try to understand how a patient’s culture may influence the meaning of pain as well as how to deliver culturally competent care (42). Yet, in an increasing multicultural society, most clinicians struggle, and continuing medical education directed at cultural competence is in its infancy.

Assessing and treating chronic pain is often complicated by disability, depression, and pain intensity issues (97). Personal biases in assessing and treating patients (especially patients complaining of severe pain) complicate chronic pain care for all patients but especially for minority patients (98–100). Differences in the way racial and ethnic minorities as well as women communicate their pain concerns may increase the likelihood of their complaints being discounted, especially if the patient’s gender, race, or ethnicity is not congruous with the clinician’s. Patients with pain due to sickle cell anemia continue to provide stories
documenting poor pain assessment and inadequate pain care during an acute pain crisis and for their chronic pain complaints (101–103). In addition, perceptions and stereotypes about addiction in this vulnerable population persist when the provider–patient interaction is fraught with the potential for racial stereotyping, mistrust, and problematic physician–patient communication (both from language and cultural perspectives) (104). Previous ethical lapses (e.g., Tuskegee syphilis trials) as well as negative experiences and interactions with the team contribute to this reluctance and serve as a reminder that trust (the basic tenet for being a partner in health care) is not transferable (42,105–109).

HEALTH CARE PROVIDER VARIABILITY IN PAIN MANAGEMENT DECISION MAKING

Despite therapeutic advances currently available to treat chronic pain, research designed to specifically examine the response to chronic pain in underserved and vulnerable populations is extremely limited. Clinicians are ill-equipped to treat chronic pain and the ethical implications of its undertreatment due to insufficient pain knowledge and ineffective pain management education in the health professional schools (110,111). Overall, education about pain, health care disparities, and ethics in an increasingly complex health care delivery system are neglected topics in most health professional schools. In fact, the physician has a basic duty to the patient to address and treat pain (112). The fact that both women and minorities often do not receive adequate pain treatment indicates the need for chronic pain guidelines as well as the need to more successfully translate research and education into clinical practice. Yet most scholarly documents addressing the ethical practice of pain medicine have not addressed disparate pain care based upon race, ethnicity, age, or gender (17,113).

Unfortunately, universal guidelines for chronic pain management are lacking and pain relief is often not a priority at the clinician or health system level (28,29,114). Physician confidence in their ability to manage pain is often misplaced and is clouded with myths and insufficient knowledge (13,36,37,99,100). They also have lower goals for chronic pain relief, less satisfaction with their chronic pain management, and provide lower quality pain care for chronic pain than for acute and cancer pain (100). The U.S. Agency for Policy and Research sponsored guidelines for acute postoperative and cancer pain treatment, yet 70% of cancer patients die with uncontrolled pain and nearly 40% of postoperative patients experience significant pain (114–116). Furthermore, variability in pain management decision making and unequal treatment based upon race, ethnicity, gender, and age complicates pain management (with minorities, women, and the elderly receiving lower quality care) (14,23,25,50,117). Racial and gender stereotyping may play a significant role (118–122). For instance, the Worker’s Compensation literature provides evidence for disparate pain care (6,9,123). These studies reveal that racial and ethnic minorities were twice as likely to be disabled six months following occupational back injuries and those without legal representation received less treatment and lower disability ratings than Caucasians. When untreated chronic pain prohibits a patient from returning to work, the system has failed.

The International Association for the Study of Pain (IASP), WHO, and European Federation of IASP chapters have urged that pain is a pressing problem and that pain relief is a human right (124a). More specifically they released a joint statement: “the control of pain has been a relatively neglected area of
governmental concern in the past, despite the fact that cost-effective methods of pain control are available. The time is right to raise the profile of pain, to promote the recognition that chronic pain is a disease in its own right and an important health concern, but above all, to raise global awareness to a fundamental truth—the relief of pain should be a human right." However, in their objectives presented in the global day against pain initiative (124b), disparities in pain care based upon race and ethnicity were not discussed. When one population (e.g., racial minorities) is disproportionately and negatively impacted more than another, it represents a fundamental human rights issue.

The perception of regulatory scrutiny often makes physicians nervous about aggressively treating pain and prescribing opioid analgesics (125,126). Recent prosecutions of pain physicians have increased these concerns and have negatively impacted the quality of pain care for patients with legitimate chronic pain complaints (126–131). It is critically important that government enforcement efforts do not prevent effective pain treatment. Hospitals, insurance providers (including the government), and physicians must examine their guidelines, policies and procedures, and licensure process to make sure that all patients, regardless of sex or race, receive proper pain treatment (132–134). Whenever this does not occur, it represents a failure of medical training, continuing medical education, and medical practice.

ACCESS TO QUALITY PAIN CARE

Most diseases commonly associated with disparities (e.g., cancer, diabetes, cardiovascular disease, and osteoarthritis) are also associated with pain. Despite the impact that chronic pain has on our society as well as an extensive literature documenting the benefits of optimizing pain management, there are limited guidelines for chronic pain management. Adequate assessment and appropriate chronic pain management is a neglected part of medicine. In the United States, chronic pain remains a national problem with significant health and socioeconomic implications, but there is considerable variability in clinician knowledge, perceptions, and goals regarding pain management. Physicians report decreased satisfaction and lower goals for chronic pain relief may lead to variability, poor assessment, and suboptimal pain management (13,98–100). Thus, to achieve quality chronic pain care, clinicians may have to move away from a strictly curative model.

Even when patients find a physician who will assess their pain complaints, they may be denied necessary treatments (e.g., opioid analgesics, counseling, and physical therapy) that can improve their quality of life due to insurance issues (135,136). In addition, minority and economically disadvantaged patients continue to report difficulty in obtaining their opioid analgesic prescriptions at their neighborhood pharmacies (137,138). Several studies provide support that pharmacies located in minority neighborhoods were significantly less likely to carry adequate opioid analgesic supplies. Although poor Caucasians had increased difficulty accessing their medications as well, minorities faced similar difficulties in obtaining their opioid analgesics in their neighborhoods regardless of high or low income, suggesting that higher socioeconomic status was not protective. In addition, limited knowledge and misperceptions about addiction, tolerance, and dependence may contribute to variability in prescribing by physicians as well as stocking by pharmacists. Thus, racial stereotyping and perceptions, socioeconomic
status, poor pain assessment, and decreased ability to obtain pain medications at neighborhood pharmacies complicate access to appropriate pain management for racial and ethnic minority persons, while impairing their overall quality of life.

BARRIERS

Several patient-related barriers to quality pain care that can be especially problematic for racial and ethnic minority patients exist (117). A common fear among patients is that they will become addicted to “narcotics.” Racial and ethnic minority persons with chronic pain tend to have less trust in the health care system and believe to a greater extent than Caucasians that race and ethnicity affects health care and pain care. Minority patients also tend to believe that good patients avoid talking about pain and that pain medications cannot really control pain. In addition, minorities report increased difficulty paying for health care despite having insurance and access to a tertiary care pain center (98,139). They also report that chronic pain was a major financial problem more so than do Caucasians. Minority patients with chronic pain also believe that they should have been referred to a pain center sooner more so than Caucasians (140). These disparate attitudes have significant implications in a potentially vulnerable population at risk for poor pain assessment and management. However, the question remains whether these perceptions or attitudes are based in reality or whether their health care experiences contributed to these beliefs. Thus, failure to optimize pain care is fundamentally an ethical lapse with long-term quality of life implications.

PAIN, DISPARITIES, AND HEALTH CARE POLICY

Medical science has many effective tools to battle pain, but they only work when they are applied uniformly to people who need them. There is little awareness regarding pain as a public health crisis or of racial and ethnic disparities in the pain care experience. The increasing racial and ethnic diversity in the United States and the growing importance of disparities to consumers (e.g., health plans, patients, employers, and providers) prompted the government to lead efforts to reduce and eliminate disparities in health and health care (141–144). Inequities in the health care system result in decreased productivity, increased health care utilization, and increased health care costs. People at risk for disparate care often access the health care system with increased disease burden at higher cost centers (e.g., emergency department). Considering the increasing prevalence of pain and its disproportionate impact on underserved and vulnerable populations, it is critically important that pain is not left out of the health care policy and disparities agenda. Consistent with WHO policy, undertreated pain (when adequate treatment is available) must be considered a human rights issue. It is the signature of a great society.

The IOM report “To Err is Human,” provided evidence for preventable medical errors leading to death (44,000 Americans annually). Although the report suggested gaps in quality, it did not address inadequate pain assessment and treatment that leads to the unnecessary suffering of millions due to unrelieved pain. Not until quality health and pain care are available for the most vulnerable in our society, will we be able to improve health and pain care for all.

There is continuing controversy regarding using opioid analgesics for chronic and persistent pain (especially in minority and low-income populations).
For minorities, the use of opioid analgesics for chronic pain is fraught with the potential of racial stereotypes, mistrust, and problematic physician–patient communication. Yet, there is no evidence to support minorities as being more likely than nonminorities to abuse opioid analgesics or divert them for illicit purposes. Nonetheless, stereotyping may complicate pain care for underserved and vulnerable populations.

**WHAT WOULD QUALITY, ETHICAL PAIN CARE LOOK LIKE?**

1. All patients having access to quality pain care by a knowledgeable health care team that views pain relief as a priority.
2. All patients receiving a comprehensive chronic pain assessment that focuses on their physical, social, and psychological functioning. Pain assessment is performed routinely during primary care and specialty clinics visits using tools that are culturally sensitive and age appropriate, while also taking into account social roles (e.g., parenting).
3. The patient receives culturally and linguistically sensitive education regarding pain and is treated as a full partner in his/her health care. Pain education also includes awareness for family members, health care providers, health care policy makers, and the public.
4. Enhanced educational efforts directed at pain, disparities, and ethics for an increasingly diverse population become commonplace. Toward this end, increased awareness for patients, health care providers, health care policy makers, and the public is achieved.
5. All chronic pain patients having access to multidisciplinary pain management centers and modalities (e.g., physical therapy, counseling, opioid analgesics, and nerve blocks) known to improve functioning, decrease pain, and enhance quality of life.
6. For injured people, pain management is integrated into the patient’s rehabilitation regimen.
7. Guidelines are developed to promote quality pain care. Research that is informed by the patient’s experience is successfully translated into clinical practice. In addition, racial and ethnic identifiers are used to monitor outcomes until disparities in pain care are eliminated.

**CONCLUSIONS**

Chronic pain is a significant public health problem that disables more people than cancer or heart disease, while costing the American people more than both combined. In an increasingly aging and diversifying America, there is compelling evidence that minorities often receive less than optimal treatment for fractures, chest pain, and cancer, as well as many chronically painful conditions such as arthritis. Minorities are often prescribed lower quality pain treatment than Caucasians—even when they have similar insurance. When disabled, minorities often receive lower monetary settlements from the Worker’s Compensation System. Even when minorities are able to overcome the significant barriers to appropriate pain assessment and receive treatment for their pain complaints, they often receive less pain medication than their Caucasian counterparts and are less likely to obtain opioid analgesic prescriptions at their neighborhood pharmacies.
No one should suffer from pain when effective treatment is available. There is a fundamental need for clinical medicine to address and recognize bioethical issues related to disparities in health and pain care. A great society has a moral imperative to help people, who are particularly vulnerable to the devastating effects of pain. Yet, health profession schools (e.g., medical, pharmacy, and nursing) devote little time to these important issues. From the time of Hippocrates, physicians have vowed to eliminate pain and suffering. In the middle of the decade for pain research and control, it is our moral imperative to optimize pain care and to eliminate disparities in care, wherever they exist. Pain management is a human right’s issue and the under treatment of pain (for whatever reason) is fundamentally a medical error with long-term ethical implications.

REFERENCES

5. Cepeda MS, Carr DB. Women experience more pain and require more morphine than men to achieve a similar degree of analgesia. Anesth Analg 2003; 97:1,464–1,468.
35. Klock PA, Roizen MF. More or better educating the patient about the anesthesiologist's role as perioperative physician. Anesth Analg 1996; 83:671–672.
59. Hils PJ. In tests on people, who watches the watchers? N Y Times (Print) 1999; F1, F4.
140. The origins of racial/ethnic disparities. Health Aff 2005; 24:316.