



## REDUCING DISPARITIES IN PAIN MANAGEMENT IN PRIMARY CARE

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Received: 05 Feb 2024 Revised: 25 Feb 2024 Accepted: 08 Mar 2024

### Abstract

Pain is a healthcare challenge impacting millions of people in the US. On average, 50 million people live with chronic pain in the US. Reducing disparities in pain management is important. Pain has a devastating impact on patients, affecting physical and mental functioning. It also affects patients' quality of life. Patients who experience pain report limitations in doing activities, restriction on mobility, lost work productivity, higher anxiety levels, depression, increased suicidal risk, and more likelihood of abusing and misusing substances. Racial and gender disparities have been reported in managing pain in primary care. African Americans, Hispanics, and other racial minorities report poor management of pain than whites. Socioeconomic factors also contribute to pain disparities. Being less educated, having lower income levels, lower levels of education, and lacking medical insurance have been associated with poor management of pain. Addressing these disparities can improve pain outcomes. Improving patient-provider communication, making systematic and structural changes, shared-decision making, using a multi-disciplinary approach, and tailoring pain management approaches to specific patient needs are some of the measures that can reduce disparities in managing pain.

**Keywords:** pain, chronic pain, disparities, pain management, primary care.

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DOI: <https://doi.org/10.38022/ajhp.v4i2.84>

### Introduction

Pain is a significant healthcare burden affecting millions of people in the US. Research has shown that pain, more so pain is the reason why most adults seek medical care in the US.<sup>1,2</sup> On average, one in five adults in the US had chronic pain in the US in 2019 and another 1 in 14 had high-impact chronic pain (HCP).<sup>3</sup> Approximately 50 million adults in the US experience some type of pain.<sup>4</sup> Chronic pain in this case is pain that lasts more than three months. Addressing pain is vital. Pain is associated with negative consequences including social and psychological consequences. It affects every aspect of an individual's life causing impaired physical and mental functioning. Some of the negative consequences of pain are limitation in activities, restriction on mobility, restriction on ability to perform daily activities, and lost productivity.<sup>3</sup> Persistent pain has been linked to anxiety, depression, high suicide risk, substance abuse and misuse, dependence on opioids, and reduced quality of life.<sup>5</sup> Pain is also associated with significant healthcare costs with approximately \$560 to \$635 billion being used to manage pain annually.<sup>6</sup> Although much has been done to manage

pain including research dedicated to long-term management of pain, disparities in managing pain still exist.

Racial and gender disparities in managing pain have been reported in different research studies showing the magnitude of the problem in the population.<sup>7,8,9,10</sup> Disparities in treating and managing pain have been established in all settings including primary care and emergency departments. Different studies have established that Whites are more likely to receive opioids prescription to manage pain than non-whites.<sup>5,11,12</sup> Racial differences have also been established in the use of pain medications. Disparities in managing pain have also been established across genders.<sup>13</sup> Addressing disparities in treating and managing pain is vital to improve patient outcomes. As noted, pain affects physical and mental functioning. Therefore, having adequate measures to reduce existing pain disparities can lead to better outcomes. The aim of this review is to explore the existing disparities in pain management in primary care and the measures that can be taken to address these disparities. The review begins by determining the prevalence rates of pain, before discussing the existing disparities in managing pain. The review concludes by providing some recommendations that can help to reduce the existing pain disparities.

### Prevalence and Incidence of Chronic Pain

Although estimating the exact number of adults affected by pain is difficult, recent data shows that approximately 50 million which is approximately 20% of American adults live with chronic pain with another 20 million (8%) living with HCP.<sup>1</sup> Although these estimates date to 2016, nothing much has changed in terms of the number of adults affected by pain. A recent study showed 20.5% to 21.8% of adult population in the US was living with pain between 2019 and 2021.<sup>4</sup> The study also showed that 6.9% to 7.8% of the population was living with HCP. These estimates come to 51.6 million adults living with pain and 17.1 million adults living with HCP respectively.<sup>4</sup> An additional study with a representative sample of 10,415 adults conducted between 2019 to 2020 to estimate the incident rates of persistent pain had similar findings.<sup>2</sup> According to the study, 40.3% of the participants reported no pain at the baseline. 38.9% reported nonchronic pain while 20.8% reported chronic pains.<sup>2</sup> During the follow-up, nothing much had changed in terms of pain reporting from the baseline with most participants reporting similar pain status. 62.3% of the participants reported no pain at baseline did not report pain at follow-up. 54.0% of those who reported nonchronic pain also reported similar pain status during follow-up while 61.4% of those who reported pain at baseline reported similar pain status during follow-up.<sup>2</sup> The study reported an incidence rate of 6.3% for chronic pain and 1.4% for HCP.<sup>2</sup>

Pain prevalence is higher in certain demographic groups. According to Rikard et al., the prevalence of both chronic pain and HCP was higher among American Indian or Alaska Native (AI/AN), bisexual adults, and adults who were divorced or separated.<sup>4</sup> The study established that the prevalence of HCP in AI/AN was six times higher than in Asian adults and twice as high than in White adults.<sup>4</sup> In adults who were bisexual, the prevalence of pain was 32.9% which was significantly higher than the 19.3% reported among adults who were identifying as straight.<sup>4</sup> Among divorced or separated adults, the prevalence was 29.6% and 10.1% respectively which was significantly high than in those who were married.<sup>4</sup> However, when it comes to race/ethnicity and prevalence of pain, findings are mixed. Some studies report high pain prevalence in non-Hispanic Whites (NHW) while others report high pain prevalence in other racial groups. Dahlhamer et al. reported a significantly more pain prevalence in NHW adults than in other racial and ethnic groups.<sup>1</sup> Mullins et al. also reported that pain was more common in NHW residents.<sup>14</sup> Other studies have reported more pain prevalence in minority groups and less pain in white people.<sup>15,16</sup> Other demographics such as age, gender, and socioeconomic factors also play a role when it comes to estimating pain prevalence. Older adults report greater levels of pain than younger adults.<sup>16</sup> Pain prevalence is also significantly higher in women than men.<sup>4</sup> With regard to socioeconomic factors, pain prevalence was significantly higher in adults with lower income levels,

lower education attainment, those who resided in rural areas or non-metropolitan areas, and those who were not currently employed.<sup>2,4,14</sup>

### Disparities in Pain Management

Although there have been significant advances in managing pain, research has shown that minority patients report more disparities in managing pain. Minorities report more likelihood of receiving opioids to manage pain which leaves them at a disadvantage.<sup>5</sup> A study by Ezenwa and Fleming established that disparities exist in managing pain in primary care with blacks reporting worse scores in pain than their White counterparts.<sup>17</sup> The worse pain management scores were reported even after controlling for factors such as income, age, disability, and education. African Americans also reported more perceived discrimination and hopelessness when it came to managing pain.<sup>17</sup> Nguyen et al. also reported similar findings with African Americans being more likely to report feeling discriminated when it came to ability to obtain care and treatment for pain than whites.<sup>18</sup> Another study also reported disparities in managing pain with Hispanic patients reporting less likelihood of receiving opioids to manage pain than non-Hispanic patients.<sup>11</sup> The study which was done in US outpatient settings reported that 30% of Hispanic patients who reported having pain were not likely to be prescribed opioids to relieve the pain.<sup>11</sup> The study attributed different factors to the lower likelihood of receiving opioid pain relievers to relieve pain. Some of these factors were the inability of patients to pay, lack of insurance coverage, and language/cultural barriers. Ly reported similar findings.<sup>12</sup> According to the study, black and Hispanic patients reported less likelihood of receiving opioids to manage abdominal and back pain than white patients at 6 and 6.3% respectively.<sup>12</sup> Disparities were also reported in managing back pain. Black patients were 7.1% less likely to receive opioids to manage the pain while Hispanic patients were 14.8% less likely.<sup>12</sup> The study also established disparities when it came to consultation for pain with Hispanic patients' back pain consultations or visits lasting 1.6 minutes fewer than that of non-Hispanics.<sup>12</sup> Hoffman et al. support these findings by noting that racial bias exists when it comes to pain assessment.<sup>19</sup> Minority groups more so blacks get less assessment of pain than whites. This bias in assessment and management of pain is informed by false beliefs.<sup>19</sup> Disparities in the management of pain medication were also found in a racially diverse national representative sample of 31,126.<sup>20</sup> The study found disparities in treating pain with Mexican Americans having lower odds of receiving pain analgesic medications than NHW.<sup>20</sup> Notably, the study also reported that Mexican Americans were less likely to report pain than their non-white Hispanics and non-Hispanic black counterparts.<sup>20</sup> The less likelihood to report pain among Mexican Americans was mainly attributed to cultural barriers more so the cultural belief of bearing pain without complaint

and with courage.<sup>20</sup> Racial disparities in managing pain can explain why minorities report more daily pain.<sup>21</sup> The failure to address the pain adequately or use the right pain analgesic increases the likelihood of reporting more pain.

Gender disparities also contribute to poor outcomes in managing pain. Women report more disparities in managing pain than men.<sup>13</sup> However, it is difficult to substantiate these because the findings vary. However, disparities in pain management when it comes to gender are mixed.<sup>18</sup> Another study reported on disparities when it came to the management of postpartum pain.<sup>22</sup> The study noted that Hispanic and black women reported a higher pain score than NHW women. The two minority groups also reported receiving lesser dosage of pain medication ns.<sup>22</sup> Johnson et al. reported disparities and inequalities in evaluating and managing postpartum pain.<sup>23</sup> Patients who identified as Black, Hispanic/Latino, and Asian received less postpartum pain assessment than white patients. They were also less likely to receive treatment for postpartum pain.<sup>23</sup>

### **Factors that Contribute to Disparities in Pain Management**

Different factors contribute to disparities reported in managing pain. Socioeconomic factors were the most commonly reported barriers to pain access. Factors such as having high-income levels, having medical insurance, having a college education, and being employed have been associated with access to medications to managing pain.<sup>18</sup> On the other hand, having lower income levels, lacking medical insurance, being unemployed, and lacking a college education have been associated with lower access to pain management. Another study had similar findings with adults who lacked insurance and had lower educational levels being less likely to receive analgesics to manage their pain.<sup>14</sup> Living in a socioeconomically disadvantaged neighborhood has also been associated with disparities when it comes to managing pain. A study by Joynt et al. established that opioids were more likely to be prescribed at visits from patients who were in the highest socioeconomic quartile than those in the lower quartile.<sup>24</sup> The study also established that blacks were prescribed opioids less frequently than their white counterparts even if they were of high socioeconomic status.<sup>24</sup>

Geographic disparities also play a role in disparities in pain management. However, findings on this are mixed with some studies showing patients residing in rural areas are more likely to get opioid prescriptions to manage pain while others show they are less likely to get opioids for pain. Pruneske et al. established that living in rural areas increased the likelihood of being given opioids to manage nonmalignant pain.<sup>25</sup> A study by Goode et al. had different findings. Living in rural areas was associated with less likelihood of seeking care for low back pain and also less likelihood of access care.<sup>26</sup>

In addition to socioeconomic factors, individual factors also contribute to disparities in managing pain. Minorities than any other groups receive less care for pain.<sup>27</sup> Patient beliefs is one of the factors that inform less care seeking habits for pain.<sup>27</sup> Expectations and coping also contribute to less care-seeking habits. Catastrophizing is one of the coping mechanisms that has been associated with lesser care-seeking habits for pain management. Catastrophizing is a cognitive and emotional response where patients tend to portray behaviors such as helplessness, magnification, and rumination. The coping strategy is associated with higher pain levels. Research has shown that blacks and Hispanics tend to catastrophize more when it comes to pain.<sup>28</sup> Catastrophizing has been shown to contribute to poor outcomes when it comes to managing pain.<sup>29,30,31</sup> Praying and religious coping are other individual factors that are associated with poor pain management outcomes. Minorities are more likely to use prayers as a coping mechanism for pain than their white counterparts.<sup>28</sup> Such coping mechanisms are likely to inform a patient's decision not to seek care for pain management. Perceived bias and discrimination are additional individual factors that contribute to disparities in pain management. African Americans and Hispanics are more likely than Whites to report perceived bias and discrimination when it comes to pain management.<sup>18</sup> Racial and ethnic differences in seeking care could also explain the disparities in pain management.

Provider factors could also explain the disparities in pain management in primary care. Provider bias and discrimination and racial stereotyping are some of the factors that affect pain management and contribute to racial bias.<sup>27</sup> Some studies have found that physicians tend to underestimate pain in racial minorities.<sup>32,33</sup> Other studies have reported bias and discrimination in pain management as a result of false beliefs. Such beliefs inform the physician's decision to prescribe or not to prescribe medication for pain management. For instance, a study by Becker et al. established that blacks and Hispanics were seen as more likely to require scrutiny for potential drug abuse than white patients.<sup>34</sup> The scrutiny was informed by the belief that these two groups were more likely to abuse opioids than their white counterparts. Such scrutiny can lead to a reduction in opioids which can negatively impact pain outcomes.<sup>35</sup> At the system level, inadequate access remains a barrier to effective pain management. Inadequate access is mainly linked to lacking insurance with patients who have no medical insurance having poor pain outcomes.<sup>18</sup> Socioeconomic factors also contribute to poor access with having a low income, lower education level, and being unemployed being linked to poor access to pain management.<sup>36,37</sup>

Addressing disparities in pain management is important to improve patient outcomes. Pain is associated with poor physical and mental health outcomes. Addressing these disparities can help to improve patient outcomes.

### Reducing Disparities in Pain Management

Improving physician-patient communication is one of the measures that can help to reduce disparities in pain management. Effective communication between physicians and patients has been found to be instrumental in pain management.<sup>38,39</sup> Effective communication enables patients to share their concerns about pain and the right way to manage it. Research has shown that inadequate communication is one of the barriers to pain management in cancer pain.<sup>40</sup> It affects opioid prescription and patient adherence to medication. Effective communication is characterized by effective questioning, better expression of concern, and shared decision-making. Shared-decision making makes patients feel that they are being listened to and their concerns are being included in the treatment plan.<sup>41</sup> Shared decision-making can improve pain outcomes because it recognizes each party's expertise and experiences when it comes to pain. With this expertise and shared experiences, both parties are likely to work collaboratively to explore treatment options that work and arrive at decisions that align with patient preferences and values.<sup>21</sup>

Patient-provider communication can be affected by language and cultural barriers. Limited English proficiency may affect the patient's ability to report pain which may affect assessment and management. This is particularly the case for Hispanics.<sup>28</sup> Addressing communication-related barriers can help to address the existing pain disparities and improve pain management. For instance, having an interpreter for patients who have a limited understanding of English can improve pain management outcomes. Research has shown that addressing language barriers increases patient adherence to pain attendance visits.<sup>42</sup> Scheduling appointments in languages that patients can improve can reduce disparities in managing chronic pain.<sup>43</sup>

Addressing the systematic barriers that affect effective pain management by making structural changes at all levels can also improve pain management for minority groups. Wang and Jacobs recommend improving and standardizing pain assessment tools, training, and protocol to cater for barriers such as language and cultural barriers.<sup>44</sup> Tailoring pain management approaches to specific patient needs can also reduce disparities in pain management.<sup>44</sup> Approaches should cater for barriers that make it difficult for minority populations to receive adequate treatment for pain management. Meghani et al. recommend greater investment in pain education to help address the existing disparities.<sup>21</sup> The authors also recommend the need to expand medical insurance coverage to increase access.<sup>21</sup>

A team-based approach to pain can also improve patient outcomes.<sup>45</sup> Research has shown that a multidisciplinary approach to pain management can improve outcomes.<sup>46</sup> A team-based approach to care can minimize provider-related bias and discrimination. Addressing provider bias

can lead to better pain outcomes because it improves how pain is assessed and medication prescribed.

### Conclusion

Despite the advances that have been made in addressing pain in primary care, pain still remains a significant health burden that affects millions of people in the US. On average one in every five adults lives with chronic pain and another one in every 14 live with HCP. That is an average of 50 million adults living with pain. Pain has devastating impacts on patients. It affects physical functioning, contributes to poor mental health, and reduces quality of life. Patients who are living with pain are more likely to report limitation in activities, restriction on mobility, restriction on ability to perform daily activities, and lost work productivity. Research has also linked pain to higher levels of anxiety, depression, high suicide risk, substance abuse and misuse, dependence on opioids, and reduced quality of life. Pain also contributes to significant healthcare costs. Racial and gender disparities have been reported in pain management in primary care. Research has shown that African Americans, Hispanics, and other racial minorities are more likely to report poor pain management than whites. Disparities in pain management have also been reported across socioeconomic levels with being less educated, having lower income levels and lower levels of education, being associated with poor pain management. Addressing disparities in pain management is important. It helps to improve pain-related outcomes. Different measures can help to reduce pain disparities. Improving patient-provider communication is one of the measures that can help to address these disparities. Language and cultural barriers are repeatedly mentioned as barriers that contribute to poor pain management and improving communication can help to minimize these barriers. Making systematic and structural changes can also help to address pain-related barriers. Not having insurance is one of the factors that contributes to poor pain management and increasing access to medical insurance can increase access to care. Shared-decision making is an additional measure that can be used to reduce disparities related to pain management. Using a multi-disciplinary approach to pain management can also improve pain outcomes. A multi-disciplinary approach is particularly vital in addressing implicit physician bias. Tailoring pain management approaches to specific patient needs can also reduce disparities in pain management.

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