



Gender Bias in Clinical Setting: Misdiagnosis of Women and their Perception of Pain

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ABSTRACT

The perception of pain varies between men and women, encompassing differences in expression, coping strategies, and treatment responses. Biological factors, including genetics and hormones, play pivotal roles in sex-specific pain mediation, influencing women's pain responses across different life stages. Menstrual cycles, pregnancy, and oral contraceptive use further highlight the impact of hormones on pain experience. Psychosocial factors, rooted in gender norms, contribute to disparities in pain reporting. From an early age, societal expectations shape how individuals, based on their gender, express and tolerate pain. Healthcare providers often carry these biases into clinical settings, where studies reveal tendencies to perceive women as more likely to exaggerate pain and less likely to receive aggressive treatment. These biases extend to treatment recommendations, with male patients receiving less psychosocial assessment and women being less likely to obtain aggressive analgesic treatment. Addressing these gender-related expectations is crucial in mitigating medical biases, ensuring equitable pain assessment, and promoting tailored pain management strategies. Hence The primary objective of this research is to assess how these differences in pain perception lead to biases in a clinical setting catering to misdiagnosis or sheer medical neglect and to suggest policies and strategies to remedy the same. This is going to be done through an analysis and review of literature and studies pertaining to this area of study. This will be done by inspecting and analyzing studies conducted over the past decade.

Aim: To suggest remedies to battle gender-related biases within clinical settings that stem from gendered differences in pain perception

KEYWORDS

Medical biases, Pain perception, gendered differences

INTRODUCTION

Gender bias in clinical settings is a pervasive and complex issue that significantly impacts the healthcare landscape. This intricate problem is particularly evident in the context of misdiagnosis and the way women's pain is perceived and addressed within the medical community. Understanding the multifaceted nature of gender bias in clinical settings requires delving into historical, cultural, and systemic factors that contribute to disparities in healthcare. Throughout history, medical research and practice have often centred around male bodies, leading to a significant knowledge gap regarding female anatomy, physiology, and health. This historical bias has had profound implications for women's health, influencing medical education, research priorities, and clinical decision-making. As a result, diagnostic tools, treatment protocols, and healthcare policies may not adequately address the unique needs and experiences of women, contributing to the perpetuation of gender bias in clinical settings.

Cultural perceptions of gender roles also play a role in shaping healthcare dynamics. Societal expectations and stereotypes regarding gender can influence how medical professionals interpret and respond to symptoms, leading to a potential underestimation or dismissal of women's health concerns. The notion that women may be more prone to emotional distress or exaggeration can contribute to a systemic undermining of the credibility of their reported symptoms. One of the critical areas where gender bias manifests is in the diagnosis and management of various medical conditions. Women often face challenges in obtaining accurate diagnoses, as symptoms that may present differently in men are not always well-recognized in women. For instance, heart disease symptoms can manifest differently in women than in men, leading to delayed or overlooked diagnoses. The lack of awareness and understanding of these gender-specific nuances can have severe consequences, impacting the effectiveness of treatments and overall health outcomes.

The **perception of pain** is another crucial aspect where gender bias becomes evident in clinical settings. Studies have consistently shown that women's pain is often trivialized, downplayed, or dismissed compared to men. This discrepancy in pain perception has been attributed to societal stereotypes portraying women as more emotionally expressive or prone to exaggeration. Consequently, women may not receive the prompt and adequate pain management they need, leading to prolonged suffering and potential complications. The misdiagnosis of women and the underestimation of their pain contribute to a broader issue of gender disparities in healthcare outcomes. It is essential to recognize that these biases are not solely the result of individual attitudes but are deeply embedded in systemic structures. Medical education, for instance, plays a pivotal role in shaping the attitudes and perceptions of future healthcare professionals. Introducing comprehensive and gender-inclusive curricula can help bridge the knowledge gap and foster a more equitable understanding of healthcare needs.

Furthermore, healthcare institutions need to actively address and counteract gender bias in their policies and practices. Implementing protocols that standardize diagnostic procedures and account for gender-specific variations can contribute to more accurate and timely diagnoses. Additionally, fostering a culture of empathy and open communication within healthcare settings can empower women to advocate for their health and challenge instances of bias. Advocacy and awareness campaigns are instrumental in highlighting the impact of gender bias on healthcare outcomes. By bringing attention to real-life stories and experiences of women who have faced misdiagnosis or inadequate pain management, these campaigns contribute to dismantling stereotypes and fostering a more empathetic and **gender-inclusive healthcare environment**. Public discourse and awareness also play a crucial role in holding healthcare systems accountable for addressing and rectifying gender bias.

Research initiatives focusing on gender-specific healthcare and medical advancements are imperative to close the existing knowledge gaps. Increased funding for studies that explore the impact of gender on disease manifestation, progression, and treatment responses can lead to more tailored and effective healthcare interventions. This research can contribute to the development of evidence-based guidelines that consider the diverse needs of all patients, irrespective of gender. In conclusion, gender bias in clinical settings and its intrinsic ties to the misdiagnosis of women and their perception of pain are complex issues that require **multifaceted solutions**. Addressing this problem necessitates a comprehensive approach that involves education, policy changes, advocacy, and research initiatives. By acknowledging and actively working to eliminate gender bias in healthcare, we can move towards a more equitable and patient-centred medical landscape where individuals receive the care they need, regardless of their gender.

BACKGROUND AND HISTORY

- **Exploring Gendered Disparities in Pain Management**

Pain is an intrinsic aspect of human behaviour. Hence it is the psychological and physiological differences between men and women that emerge as puzzling aspects in terms of highly gendered biases and misdiagnosis in clinical settings. Understanding the nuanced landscape of gendered biases in clinical pain management requires unravelling historical, societal, and scientific dimensions shaping the perception, treatment, and understanding of pain. This research report delves into the foundations upon which current practices are built, exposing persistent disparities in pain treatment between men and women.

- **Historical Perceptions and Biblical Narratives**

The roots of gendered pain treatment disparities delve deep into historical perceptions intertwined with cultural and religious narratives. A stark example is found in Genesis 3:16, where womanhood is associated with increased pain in childbirth and submission to husbands. These narratives, embedded in societal consciousness, shape expectations and potentially bias gender-based approaches to pain management. Recognizing these historical influences is crucial for scrutinizing contemporary practices. The notion of pain as a consequence of womanhood, articulated in biblical narratives, has permeated cultural attitudes towards gender and pain. This historical association has implications for how pain is perceived and managed in contemporary clinical settings. Understanding this deep-seated connection allows us to unravel the layers of bias that may influence the approach to pain treatment.

PREVALENCE OF INADEQUATE TREATMENT

Contemporary society bears witness to the domineering testament of inadequate pain treatment, particularly affecting women in clinical settings. Extensive literature documents the undertreatment of pain, with women often receiving sedatives while men are prescribed pain medication. Societal perceptions, individual pain reporting, and potential biases within the healthcare system contribute to the genesis of these disparities, highlighting systemic challenges.

The prevalence of inadequate pain treatment is a complex issue with far-reaching consequences. Women consistently find themselves on the unfavourable side of this disparity, facing challenges in having their pain adequately addressed. Troubling studies underscore the **disparities in prescriptions**, revealing a pattern where women are more likely to receive sedatives for pain, while men are prescribed

more potent pain medication. This raises questions about societal expectations, individual pain reporting, and the potential presence of unconscious biases within the healthcare system.

Wehbe-Alamah et al. (2012) in the United States similarly found that women who have experienced misdiagnosis report being dissatisfied with medical explanations about their symptoms. Some of the women in these studies were told they were **'over exaggerating'** or that their symptoms were **'all in your head'**. These forms of condescension imply women are malingerers who create psychosomatic symptoms and work towards fuelling discourses of women as attention seekers or hysterical hypochondriacs (Thompson, 2020).

In a related concept, **andro-normativity** comes into play. Andronormativity in healthcare involves considering masculinity and male values as the norm, making femininity and female values invisible and requiring explicit recognition. This perspective influences the prioritization of conditions in research and healthcare, creating status hierarchies of diagnoses. Album and Westin found that women-dominated conditions like fibromyalgia and anxiety neurosis were rated as the least prestigious among 38 diseases. This bias also affects the perception of male behaviour as normal in conditions affecting both genders, such as differences in how angina symptoms are interpreted for men and women. Women's pain in angina is often labelled as atypical, positioning men's pain as the standard (Frontiers, 2020).

Allegations and empirical data converge to spotlight **gendered nuances in pain treatment**. Women are suggested to be more prone to undertreatment or inappropriate diagnosis and treatment. Disparities in medications administered based on gender raise questions about pain reporting accuracy, societal expectations, and

potential biases among healthcare providers. When inspected these dimensions expose the complexities in understanding and addressing gender biases in pain management. The intersection of allegations and data underscores the gravity of gendered disparities in pain management. Women's experiences with pain are often dismissed or inadequately addressed, leading to a cycle of undertreatment and exacerbation of their suffering. Allegations of gender bias in pain management are substantiated by empirical evidence, revealing a troubling pattern that demands attention and reform within healthcare practices.

Recent research, exemplified by Bartley and Fillingim (2013), provides a contemporary lens on men's and women's nuanced responses to pain. Scientific inquiry suggests that women, on average, exhibit increased pain sensitivity and are at a higher risk for clinical pain. These insights emphasize the need to navigate interconnected factors contributing to gender biases in pain perception and treatment. The turning point in comprehending gendered differences in pain management lies in recent research dedicated to exploring sex-based disparities. Bartley and Fillingim's study sheds light on the nuanced responses of men and women to pain, challenging preconceived notions. It becomes evident that women's increased pain sensitivity is a crucial factor that shapes their experiences with pain. **This research adds depth to our understanding, emphasizing the need to navigate the intricate, interconnected factors contributing to gender biases in pain perception and treatment.**

BIOLOGICAL STUDIES ON SEX DIFFERENCES

Biologically, gender disparities in pain perception are evident. Research indicates that women tend to exhibit a heightened natural response to pain stimuli, potentially influenced by factors such as increased nerve density. **Fluctuations in female hormones**, particularly

during the menstrual cycle or after menopause, may amplify pain sensitivity due to elevated pain receptor activity during low estrogen levels. Moreover, women's higher susceptibility to chronic pain conditions, especially during reproductive years, leads to more frequent pain reporting compared to men.

From a **psychological standpoint**, inherent differences in how men and women are 'wired' may contribute to varying pain perceptions. Conditions like anxiety and depression, more prevalent in women, could exacerbate the impact of painful experiences, irrespective of the actual intensity of the pain. The awareness that women possess regarding their physical sensations might also play a role; some theories propose that women's heightened mindfulness leads them to notice and acknowledge pain more readily than men.

While an exact explanation for the contrast in pain experiences between genders remains elusive in current research, the undeniable existence of these differences emphasizes that each individual, regardless of gender, interprets and responds to pain.

PSYCHOLOGICAL CAUSES

Gendered disparities in pain management extend beyond biology into societal and medical domains. Insights from the Harvard Health Blog reveal dismissive attitudes toward women with chronic pain, attributing their pain to psychological causes. Prescription disparities and biases within the medical system become glaring issues, with potential life-altering repercussions.

Additional insights on gender disparities in clinical practices suggest not only that men and women **communicate** differently to healthcare providers about their pain but that healthcare providers may respond differently to them. Miaskowski reported on several studies that identified such differences in response and treatment. Faherty and

Grier studied the administration of pain medication after abdominal surgery and found that controlling for patient weight, physicians prescribed less pain medication for women aged 55 or older than for men in the same age group, and that nurses gave less pain medication to women aged 25 to 54. Calderone found that male patients undergoing a coronary artery bypass graft received narcotics more often than female patients, although the female patients received sedative agents more often, suggesting that female patients were more often perceived as anxious rather than in pain. Another study examining post-operative pain in children found that significantly more codeine was given to boys than girls and that girls were more likely to be given acetaminophen.

Miaskowski further reported on two more recent studies. In a 1994 study of 1,308 outpatients with metastatic cancer, Cleeland and colleagues found that of the **42%** who were not adequately treated for their pain, women were significantly more likely than men to be undertreated (an odds ratio of 1:5). In another study of 366 AIDS patients, Breitbart, and colleagues found that women were significantly more likely than men to receive inadequate analgesic therapy. The assessment of undertreatment in both studies was based on guidelines developed by the World Health Organization for prescribing analgesics.

Other studies also indicate differences in how men and women are treated by health-care providers for their pain. In a retrospective chart review of male and female post-operative appendectomy patients without complications, McDonald found that in the immediate post-operative period, males received significantly more narcotic analgesics than females. However, differences were insignificant when considering the whole postoperative period. McDonald suggested that these differences might be due to **gender stereotyping** during the initial post-operative period when the patient is still drowsy from

anaesthesia and not always able to make his or her pain needs known. The **nurse may respond differently** to male and female patients during this time, as compared to later in the post-surgical recovery period when patients are more fully awake and able to report their pain.

A recent prospective study of patients with chest pain found that women were less likely than men to be admitted to the hospital. Of those hospitalized, women were just as likely to receive a **stress test** as men, but of those not hospitalized, women were less likely to have received a stress test at a one-month follow-up appointment. The authors attributed the differences in treatment to the **"Yentl Syndrome,"** i.e., women are more likely to be treated less aggressively in their initial encounters with the health-care system until they "prove that they are as sick as male patients." Once they are perceived to be as ill as similarly situated males, they are likely to be treated similarly.

The **"Yenti Syndrome"** hypothesis fits well with the results of a study by Weir and colleagues, which found that of chronic pain patients referred to a speciality pain clinic, men were more likely to have been referred by a general practitioner, and women, by a specialist. The results suggest that women experience disbelief or other obstacles at their initial encounters with healthcare providers. An older study (1982) also found that of 188 patients treated at a pain clinic, the women were older and had experienced pain for a longer duration before being referred to the clinic than the men. In addition, the researchers found that women were given "more minor tranquilizers, antidepressants, and non-opioid analgesics than men. Men received more opioids than did women." These findings are consistent with those reported by Elderkin-Thompson and Waitzkin, who reviewed evidence from the American Medical Association's Task Force on Gender Disparities in Clinical Decision-Making. Physicians were found to consistently view women's (but not men's) symptom reports as caused by emotional factors, even in the presence of positive clinical tests.

INTEGRATING ADDITIONAL INSIGHTS INTO THE BACKGROUND

Incorporating these additional insights into exploring gendered disparities in pain management unveils a deeper layer of complexity. Not only do historical, societal, and biological factors contribute to these disparities, but the **communication dynamics** between patients and healthcare providers also play a pivotal role. Miaskowski's findings underscore how the way men and women express their pain may influence healthcare professionals' responses, potentially leading to differential treatment. Faherty and Grier's study on pain medication administration after abdominal surgery exposes a concerning pattern where physicians prescribe less pain medication to older women compared to their male counterparts. Calderone's observations during coronary artery bypass graft procedures reveal gender-based differences in the administration of narcotics and sedative agents.

These instances suggest a **nuanced bias** in perceiving women as more anxious than in pain, influencing the type and quantity of pain management interventions. The assessment of undertreatment, as highlighted by Cleeland and Breitbart, further emphasizes the gendered nature of disparities in pain therapy. Women, facing metastatic cancer or AIDS, are significantly more likely to be undertreated compared to men, as outlined in studies following World Health Organization guidelines for prescribing analgesics. McDonald's retrospective chart review delves into post-operative care, shedding light on initial disparities in pain medication administration between male and female patients. The study suggests that gender stereotyping during the early postoperative period may contribute to differences in pain management. This insight aligns with the broader narrative of how **unconscious biases** may impact healthcare delivery.

The **"Yenti Syndrome"** identified in the prospective study of patients with chest pain further emphasizes the gendered complexities in the

healthcare system. Women, until they **"prove"** their illness comparable to men, may receive less aggressive treatment. Weir and colleagues' study on chronic pain patients referred to speciality clinics adds another dimension, indicating that women face disbelief or obstacles in their initial encounters with healthcare providers. The integration of these additional insights underscores the intricate interplay of societal attitudes, biases, and communication dynamics that contribute to **gendered disparities in pain management**. As we continue our exploration, it becomes evident that addressing these disparities requires not only a reevaluation of clinical practices but also a transformation in the way patients' expressions of pain are perceived and responded to by healthcare providers.

WITHIN THE INDIAN CONTEXT

A report published in 2006 by the *National Human Rights Commission* titled '**Women's Right to Health**' states that the challenge of accessibility is heightened due to the absence of a gender perspective in planning. The government primarily perceives women as mere child-bearing machines and insufficient health services are narrowly circumscribed within this viewpoint. The health program operates on the premise that maternal mortality is the core issue causing imbalances in sex ratios, life expectancy, and death rates among women. However, the crucial factors tied to the low social and health status of women before motherhood often go overlooked. Women's general health problems receive inadequate attention, and poorly designed government programs, particularly for poor women, exacerbate the issue.

The medical focus on reproductive functions has integrated family planning into **Mother and Child Health services**, but essential aspects such as adequate ante-natal care and common reproductive health

problems, like pain during menstruation, backache, infertility, and reproductive tract infections, are frequently neglected. Disturbingly, there exists a widespread notion that reproductive tract infections are natural or baseless complaints of neurotic women, perpetuating a lack of understanding and hindering proper care. The scarcity of trained personnel in rural areas further compounds the problem, leaving women to suffer silently from these ailments (Sarojini,2006).

The paper “**Sexism in Medicine and Women's Rights**” by Prakash et.al also notes that female patients are often unfairly labelled as hysterical and irrational, and traditional medical language predominantly uses male pronouns. However, when discussing psychogenic illnesses, a hypothetical patient is automatically referred to as 'she'. This bias against women is evident not just in attitudes but also in the inadequate physical facilities provided to them. The number of beds allocated to women in hospitals is significantly lower than those for men, and women receive a lower-calorie diet under the assumption that they need less food. Women often approach medical facilities only when their illness disrupts their daily routine, as they tend to downplay their health issues to avoid burdening their family's limited resources. It's crucial to emphasise that when women do seek medical attention, they should be treated with care and sensitivity. An analysis by Veena Shatrugna in a teaching hospital in Hyderabad highlights a **discrepancy in bed allocation**, where women aged 15 to 45 with burns have fewer beds in plastic surgery wards compared to men (Prakash,1993)

MITIGATION STRATEGIES AND SOLUTIONS

Here are some ways where we can mitigate the biases that so clearly envelop clinical practices in India

- **Incorporate Gender Sensitivity in Medical Education:**

Integrate modules on gender sensitivity into medical education in India, ensuring that healthcare professionals are educated on the nuances of gender biases in pain perception. This could involve updating the curriculum of medical schools and incorporating practical training scenarios that address these issues.

- **Align with Ayushman Bharat:**

Ayushman Bharat, India's flagship health insurance scheme, could incorporate standardised pain assessment protocols as part of its quality assurance measures. This ensures that the scheme not only focuses on financial accessibility but also emphasizes the importance of equitable and unbiased healthcare services

- **Diversity in Health Leadership under National Health Policy:**

Advocate for policies under the National Health Policy that encourage diversity in leadership roles within healthcare institutions. This could involve setting quotas or incentives for gender diversity at decision-making levels to ensure a more inclusive approach to healthcare management.

- **Leverage National Health Programs for Education:**

Utilise existing national health programs, such as the National Health Mission, to disseminate educational materials addressing gender biases in pain perception. This could include awareness campaigns through community health workers and educational initiatives in healthcare facilities.

- **Engage with NGOs and Advocacy Groups:**

Collaborate with Indian NGOs and advocacy groups focused on women's health, aligning efforts with the Ministry of Health and Family Welfare initiatives. Incorporate the perspectives of these

groups in policy development to ensure cultural relevance and sensitivity

- **Continuous Medical Education under the National Medical Commission:**

Align efforts with the National Medical Commission's guidelines for continuous professional development. Ensure that healthcare providers receive regular updates on gender-specific pain perception and integrate this knowledge into their ongoing medical education.

- **Transparent Reporting under National Digital Health Mission:**

Leverage the National Digital Health Mission to implement transparent documentation and reporting practices. This involves integrating gender-disaggregated data in electronic health records, allowing for the monitoring of pain management outcomes and the identification of potential disparities.

- **Research Funding through the Indian Council of Medical Research (ICMR):**

Advocate for increased research funding from institutions like the Indian Council of Medical Research (ICMR) for studies specifically focused on gender differences in pain perception. This ensures a robust evidence base for developing effective interventions and policies.

- **Policy Audits in line with National Health Policy:**

Conduct regular policy audits aligned with the National Health Policy to identify and rectify gender biases in pain management policies. This includes reviewing and updating policies to reflect evolving healthcare standards and best practices

- **Integrate Holistic Care into the National AYUSH Mission:**

Align with the National AYUSH Mission to promote holistic care by integrating traditional and alternative medicine approaches. Establish multidisciplinary pain management teams that consider cultural factors alongside medical aspects, acknowledging the importance of holistic well-being. Implementing these strategies within the context of Indian healthcare policies can contribute to a more inclusive, culturally sensitive, and effective approach to addressing gender biases in pain perception in clinical settings.

CONCLUSION

Gendered biases in clinical settings extend beyond simple stereotypes such as "**women are dramatic**" and "**men are brave.**" Such biases can manifest in various forms, affecting patient care and treatment outcomes. For instance, clinicians might unconsciously minimise women's symptoms or ascribe them to emotional or psychological causes rather than conducting thorough investigations, which could delay accurate diagnosis and effective treatment. Similarly, occupational gender typing can affect the perceived stress and burnout levels of professionals, with women often being employed in roles consistent with caregiving stereotypes, potentially leading to a misinterpretation of their stress responses.

For example, heart disease – traditionally considered a male issue – presents differently in women, sometimes resulting in healthcare professionals overlooking or misinterpreting the signs in female patients. This can delay critical interventions and increase the risk of mortality. Additionally, the diagnostic criteria for many conditions are based on male-dominated clinical trials and studies, further entrenching gender bias in medical practice (*Heart Disease: Differences in Men and Women*, 2023).

In the field of mental health, women may face bias as well, with their

symptoms sometimes viewed through a lens of gender stereotypes leading to misdiagnosis. For instance, a woman expressing anger or frustration might be labelled as having an emotional or personality disorder, while a man might be taken more seriously or seen as assertive (Malhotra, 2015) sometimes viewed through a lens of gender stereotypes leading to misdiagnosis. For instance, a woman expressing anger or frustration might be labelled as having an emotional or personality disorder, while a man might be taken more seriously or seen as assertive (Malhotra, 2015)

Moreover, **women's reproductive health** issues can be neglected or poorly managed within healthcare systems that are not set up to offer specialized support. Endometriosis, a painful condition affecting 1 in 10 women, often goes undiagnosed for years due to a combination of normalization of menstrual pain and a lack of specialist understanding of the condition (Sims et al., 2021)

Efforts to improve this situation include **targeted education** for healthcare providers on the specific health needs and symptoms presentation in women, as well as **advocacy for greater inclusion** of women in clinical research. Encouraging patient-centred care and **communicating openly** with patients about their symptoms without preconceived gendered notions is critical.

Recognizing and addressing gendered biases in clinical settings is essential to ensuring that women receive the same quality of care and medical attention as men, thus reducing healthcare disparities and promoting better health outcomes for all patients.



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