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Alternative Medicine in Punjab: Gendered Patterns in Efficacy and Safety Outcomes

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Abstract

Background: *Alternative medicine remains an integral part of healthcare practices in Punjab, India. However, disparities based on gender and regional differences influence its usage, efficacy, and safety outcomes.* ***Objective:*** *To assess gendered and regional patterns in the use, perceived benefits, and safety concerns of alternative medicine among adults in Punjab.* ***Methods:*** *A mixed-methods, cross-sectional study was conducted among 620 adults (300 men, 320 women) from both urban and rural regions of Punjab. Quantitative data were analyzed using chi-square tests and univariate logistic regression to identify predictors of adverse effects. Qualitative interviews complemented survey findings to provide context.* ***Results:*** *Women reported significantly higher symptom relief from alternative medicine (78% vs. 64%, $p = 0.01$) and greater use for chronic pain management (61% vs. 32%, $p < 0.001$). In contrast, men more frequently used alternative treatments for mental health concerns (26% vs. 9%, $p < 0.001$). Rural participants experienced more adverse effects (38% vs. 19%, $p < 0.001$), largely due to higher rates of self-medication (59%) and limited access to trained healthcare providers (24%). Univariate regression identified rural residence (aOR = 3.2) and self-medication (aOR = 2.8) as significant predictors of adverse outcomes, while gender had no independent effect.* ***Conclusion:*** *The use of alternative medicine in Punjab is shaped by gender and geographic disparities. Women benefit more in terms of symptom relief, while rural residents face elevated risks due to self-medication and lack of trained support. These findings support the need for culturally and gender-sensitive harm-reduction policies to regulate access and ensure safe use of alternative therapies.*

Keywords: Alternative medicine, efficacy, gender differences, Punjab, rural health, safety

INTRODUCTION

The healthcare system in the Punjab region of India incorporating Ayurvedic, homeopathy, as well as traditional herbal therapies is termed as Alternative medicine. Around 45% of the population in Punjab practices these owing to cultural, economic, and mistrust towards mainstream medicine [1]. Yet some factors such as social class, physiological response, and health behavior differences between genders may impact treatment results. For instance, women in rural areas of Punjab prefer using herbal treatments for gynecological complaints, while their male counterparts use alternative treatments for stress or diabetes [2]. Much less is known about how the benefits and safety of these treatments differ by gender, especially in contexts where patriarchal systems control the means of accessing healthcare. This research aims to capture the differences in the benefits and safety of alternative treatments among genders in urban and rural parts of the Punjab region to inform more culturally sensitive healthcare systems.

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METHODOLOGY

Study Design and Population

Data was collected through a combination of quantitative survey and qualitative interview across the three regions of Punjab (Malwa, Majha, Doaba) over the period of March 2022 to February 2023. 620 adults (300 men, 320 women) aged 20–60 who had used alternative medicine for a period of 6 months, or more were included in the study.

Inclusion Criteria

- Adults aged 20–60 years using alternative medicine (Herbal, Ayurvedic, Unani, Homeopathic, or traditional medicine of Punjabis).
- Socio-demographic characteristics stratified according to gender (male or female) and residence (urban or rural) were included.
- Ability and willingness to provide a detailed history of the use along with the other health assessments.

Exclusion Criteria

- Current use of alternative medicine for a period of less than six months.
- Use of conventional treatments without a doctor's supervision.
- Severe psychiatric or terminal disorders.

Data Collection

- *Efficacy:* Self-assessment of symptom improvement on a 5-point Likert scale and changes in levels of measurable health indicators (e.g., blood pressure, HbA1c).
- *Safety Metrics:* Adverse effects (e.g., gastrointestinal issues, allergic reactions) reported during structured interviews.
- *Socio-Cultural Factors/Drivers:* Captured through open-ended questions pertaining to the beliefs, affordability, and accessibility.

Statistical Analysis

Both Qualitative and Quantitative data analyses were done using SPSS v28 and NVivo respectively. Chi-square tests were conducted to evaluate the differences in gender while thematic analysis explored the resistance towards the use of alternative treatment methods.

RESULTS

This data shows that women reported greater symptom improvement (78% versus 64%) along with greater use of alternative medicine for chronic pain, frequently attributable to menstrual disorders and arthritis, at 61% compared to men's 32% [3]. Men mostly utilized these therapies for mental health issues (26% vs. 9%) reflecting societal stigma toward seeking conventional psychiatric care [4].

Table 1. Gender differences in efficacy of alternative medicine.

Parameter	Male (n = 300)	Female (n = 320)	p-value
Reported Symptom Improvement (%)	64%	78%	0.01
Use for Chronic Pain (%)	32%	61%	<0.001
Use for Mental Health (%)	26%	9%	<0.001

In this table, rural participants reported greater adverse effects (38% vs. 19%) because of sparse access to a licensed practitioner (24% vs. 68%) and self-medication (59% vs. 25%). Rife self-medication in rural regions likely stems from the unregulated herbal products that are laced with steroids, heightening these risks [5].

Table 2. Safety outcomes by gender and residence.

Parameter	Urban (n = 310)	Rural (n = 310)	p-value
Adverse Effects (%)	19%	38%	<0.001
Access to Licensed Practitioners (%)	68%	24%	<0.001
Self-Medication (%)	25%	59%	<0.001

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Rural residence (aOR = 3.2) and self-medication (aOR = 2.8) strongly predicted adverse effects. Although women tended to report more adverse events descriptively, as in 32% compared to 28% for men, gender did not emerge as a significant statistical predictor after controlling for residence and self-medication.

Table 3. Predictors of adverse effects (multivariate analysis).

Factor	Adjusted Odds Ratio (aOR)	95% CI
Rural Residence	3.2	1.8–5.6
Self-Medication	2.8	1.5–4.9
Female Gender	1.1	0.7–1.8

DISCUSSION

The findings of this study highlight significant gender and geographic differences concerning the application and results of alternative therapies in Punjab. The 78% reported efficacy among women corresponds to their predominant reliance on herbal therapies for chronic pain, especially gynecological and musculoskeletal disorders [3]. Due to social norms, women in Punjab are often silenced about reproductive health, which drives them towards accepted herbal therapies [2]. On the other hand, men's dependence on alternative medicine for mental health concerns reveals the perception of intense stigma surrounding psychiatric care that reinforces the notion of "weakness" when seeking conventional treatment [4]. The implications of these findings reflect the way patriarchal structures in society influence health-seeking behaviors and the necessary steps taken to achieve optimal treatment results. The powerful difference in safety outcomes between urban and rural areas highlights the inequitable inequities. As a result of the lack of licensed practitioners and the unregulated herbal markets, rural participants experienced greater adverse effects (38%) [5]. For instance, in rural parts of Punjab, steroids are often sold over the counter in herbal stores which increases the risk of abuse [1]. Even more alarming is the fact that 59% of rural self-users relied on informal knowledge instead of professionally active guidance and therefore, self-medication was rampant. The better safety proportions achieved by urban users (19% adverse effects) are most likely due to higher education levels and the presence of regulated Ayurvedic clinics. Admittedly, women did report experiencing greater adverse events than men descriptively (32% vs. 28% in men). However, multivariate analysis has established that gender was not an independent driver. Rather, self-medication as well as rural living became the primary risk drivers which shift the attention from biology to supporting structures. This challenges the notion that women's physiology meekly amplifies the extent to which they are at risk and refocuses to how systemic frameworks enable such women to be so vulnerable.

CONCLUSION

The practice of alternative medicine exacerbates existing gender inequalities in the sense that it is regionally stratified within Punjab. Chronic pain in women and mental health ailments in men are deeply rooted in socio-culturally defined roles, and these through the lens of rural populations become acute because of little to no regulation. For improved results, policies need to consider the gap of rural infrastructure, control the standards of quality for herbal products, and introduce efforts which are sensitive to gender education.

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