

Original Research Article

Socio-cultural determinants of low back pain among hill and valley populations in Manipur, India: a cross-sectional study

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ABSTRACT

Background: Low back pain (LBP) is a highly prevalent musculoskeletal disorder and a major public health concern worldwide. Beyond biological factors, socio-cultural determinants significantly influence the perception, response, and management of pain. In Manipur, India, the cultural and healthcare contexts of the hill and valley populations differ considerably, potentially shaping health-seeking behaviours and outcomes. Objectives were to compare socio-cultural factors influencing LBP among hill and valley populations of Manipur and to examine their healthcare-seeking behaviour.

Methods: A hospital-based cross-sectional study was conducted in the department of PMR, RIMS, Imphal. A total of 80 adults with chronic LBP (>3 months) were recruited through purposive sampling. Data were collected using a semi-structured questionnaire covering socio-demographic characteristics, beliefs, and health-seeking behaviour. Chi-square test was applied to examine differences between groups.

Results: LBP was more common among farmers in hill areas (41.2%), while private employees predominated in the valley (45.7%). Nearly half of the hill participants (47.1%) had no formal education, compared to 45.7% in the valley who studied only up to class V. Healthcare access was poorer in the hills, with 55.9% living ≥10 km from a health centre. Belief systems varied: hill participants often viewed LBP as divine punishment (44.1%), while valley respondents attributed it to evil spirits (47.8%). Overall, 76.3% avoided medical care, preferring quacks, rituals, or self-treatment.

Conclusions: Socio-cultural beliefs, low education, poor healthcare accessibility, and occupational risks strongly shape LBP prevalence and care-seeking behaviour in Manipur. Culturally sensitive health education and improved healthcare access are critical for effective management.

Keywords: Low back pain, Socioeconomic determinants, Hill, Valley

INTRODUCTION

Low back pain (LBP) is one of the most prevalent musculoskeletal disorders worldwide and is a leading cause of disability across populations. Global estimates suggest that nearly 80-85% of adults experience LBP during their lifetime, and 10-20% may develop chronic or recurrent pain, leading to significant disability and productivity loss.¹⁻² The global burden of disease study has consistently ranked LBP as one of the top

contributors to years lived with disability (YLDs).³ In low- and middle-income countries (LMICs), including India, the burden is compounded by socioeconomic inequalities, limited access to healthcare, and diverse cultural interpretations of illness.⁴

While biomechanical and occupational risk factors such as heavy lifting, prolonged sitting, and poor ergonomics are widely recognised, increasing attention has been directed toward the role of socio-cultural determinants in the experience and management of LBP.^{5,6} Culture

influences how individuals perceive pain, attribute its causes, and decide on treatment options. Beliefs rooted in spirituality, fate, or supernatural causes often shape health-seeking behaviour, particularly in communities where traditional healers are more accessible than biomedical services.^{7,8}

In India, health-seeking behaviour is deeply embedded in social and cultural contexts. Previous anthropological and epidemiological studies have shown that many communities continue to rely on folk healers, herbal remedies, and ritualistic practices for musculoskeletal complaints, often delaying or avoiding modern medical interventions.^{9,10} Factors such as education, occupation, family income, and healthcare accessibility interact with cultural attitudes to determine health outcomes. For example, orthodox beliefs linking pain to punishment or evil spirits may discourage medical consultation, while poverty and geographical inaccessibility further restrict options for treatment.^{11,12}

Manipur, located in north-eastern India, presents a unique socio-cultural setting for studying these dynamics. The state is geographically divided into a central valley surrounded by hill regions. The valley is predominantly inhabited by the Meitei population, while the hills are home to multiple tribal groups such as Nagas and Kukis, each with distinct cultural traditions, belief systems, and healthcare practices.¹³ The valley areas generally have better access to education, markets, and healthcare facilities, while the hill communities face challenges of remoteness, poor connectivity, and limited availability of modern medical services.¹⁴

These structural disparities are reflected in health-seeking behaviour. Valley populations often utilize both biomedical and indigenous systems, whereas tribal populations in the hills tend to rely more on traditional healers and spiritual practices. Cultural interpretations of illness such as attributing pain to evil spirits, divine punishment, or sorcery remain prevalent in these communities.¹⁵ Although musculoskeletal disorders such as LBP are common in both populations, there is limited empirical research examining how these socio-cultural factors influence healthcare behaviour in Manipur.

Understanding such differences is important for several reasons. First, chronic LBP is not only a clinical problem but also a social phenomenon, influenced by community norms, access to resources, and healthcare provider–patient dynamics.⁸ Second, in culturally diverse regions like north-east India, public health strategies must be tailored to address unique cultural perceptions to be effective. Third, strengthening musculoskeletal care requires integrating biomedical approaches with culturally sensitive health education and outreach programs.¹⁶

Against this background, the present study was undertaken to investigate the socio-cultural determinants

of LBP among hill and valley populations in Manipur. The study aimed to compare socio-cultural characteristics related to LBP between these groups, to examine differences in health-seeking behaviour, and to identify socio-demographic correlates such as occupation, income, education, healthcare access, and cultural belief systems. By exploring these issues, this work contributes to the growing recognition of the role of culture in shaping health outcomes and highlights the need for context-specific interventions in musculoskeletal care.

Objectives

This study aimed to compare the socio-cultural factors influencing LBP between the hill and valley populations of Manipur, to examine differences in health-seeking behaviour, and to identify associated socio-demographic determinants such as occupation, income, education, healthcare accessibility, and cultural belief systems.

METHODS

Study design and setting

A hospital-based cross-sectional study was conducted in the department of physical medicine and rehabilitation (PMR), regional institute of medical sciences (RIMS), Imphal. RIMS is a tertiary care centre located in the valley region of Manipur and serves patients from across the state. The study was carried out over one month.

Study population

The study included adult patients (18-50 years) with LBP of more than three months' duration from both hill and valley areas of Manipur who attended the PMR outpatient department (OPD).

Inclusion criteria

Patients of either gender, aged 18-50 years, with chronic LBP (>3 months) and residents of hill or valley areas of Manipur were included.

Exclusion criteria

Patients with a history of significant back injury, untreated chronic systemic diseases, severe illness, mental health disorders, language barriers, or those unwilling to provide informed consent were excluded.

Sample size and sampling

Sample size was calculated using the formula for single proportion with prevalence of LBP estimated at 3% (Shmagel et al) 95% confidence level, and 4% allowable error.⁴ The minimum required sample size was 77, which was increased to 80 to account for non-response. A purposive sampling method was used, including consecutive patients meeting eligibility criteria. In total,

80 participants were enrolled (34 from hill areas and 46 from valley areas), with no dropouts.

Study variables

Socio-demographic and cultural variables included gender, residence, marital status, education, occupation, nutrition, family structure, social class, social life, healthcare accessibility, transportation, availability of community resources, health-seeking behaviour, healthcare provider-patient relationship, and orthodox beliefs regarding illness.

Study tool

Data were collected using a pre-designed, semi-structured questionnaire consisting of 16 items addressing socio-demographic characteristics, health-seeking behaviour, and cultural beliefs.

The questionnaire was developed after a literature review and validated by faculty members from the departments of PMR and community medicine.

Data collection

Participants were interviewed face-to-face after providing written informed consent. Interviews were conducted in a private setting within the OPD. Where necessary, interpreters assisted patients from hill areas with limited proficiency in Manipuri, the local lingua franca. Postgraduate trainees assisted in data collection. Some logistical challenges were encountered, including reduced attendance of hill-area patients due to connectivity and law-and-order issues. To overcome this, permission was obtained from the hospital administration to contact registered LBP patients for follow-up visits.

Ethical considerations

Ethical approval was obtained from the research ethics board of RIMS. Participation was voluntary, informed consent was secured, and confidentiality was maintained by coding data without personal identifiers.

Data analysis

Data were entered into Microsoft excel, cleaned, and analysed using SPSS version 22 (IBM). Descriptive statistics such as frequencies and percentages were used to summarize data. Chi-square tests were applied to examine differences between proportions, with $p < 0.05$ considered statistically significant.

RESULTS

A total of 80 participants with chronic LBP were included in the study, comprising 34 from hill areas and 46 from the valley. Overall, 55% were male.

Socio-demographic profile

Education, occupation, and social class varied significantly between groups. Nearly half of the hill participants (47.1%) had no formal education, while most valley participants (45.7%) had studied up to class V. Farming was the predominant occupation in the hills (41.2%), whereas private employment dominated in the valley (45.7%). In terms of social class, a majority of hill participants belonged to the lower class (41.2%), while lower-middle class was most common in the valley (52.2%).

Table 1: Socio-demographic characteristics of participants (n=80).

Variables	Hill (n=34)	Valley (n=46)	P value
Gender (Male)	58.8%	52.2%	0.62
Education-no formal schooling	47.1%	21.7%	0.038
Occupation-farming	41.2%	10.9%	0.032
Occupation-private employment	26.5%	45.7%	0.032
Social class-lower	41.2%	13.0%	0.025
Social class-lower middle	26.5%	52.2%	0.025

Healthcare access and community resources

Significant disparities were observed in access to healthcare facilities and wellness resources. Over half of the hill participants (55.9%) reported that the nearest health centre was ≥ 10 km away, compared with only 19.6% in the valley. Similarly, only 20.6% of hill participants had easily accessible community fitness/wellness facilities, versus 52.2% in the valley.

Table 2: Accessibility to healthcare and community resources.

Variables	Hill (n=34)	Valley (n=46)	P value
Health centre ≥ 10 km	55.9%	19.6%	0.003
Easily available transport	23.5%	54.3%	0.01
Accessible fitness/wellness resources	20.6%	52.2%	0.015

Health-seeking behaviour

Marked differences were found in treatment-seeking patterns. In the hill areas, 41.2% did not consult doctors due to the belief that medical treatment was ineffective or dangerous, while in the valley, 60.9% preferred consulting local quacks/medicine men. Only 12.5% of all participants sought medical care immediately. Barriers

included lack of privacy during examinations and the healthcare provider being from a different community.

Table 3: Health-seeking behaviour and barriers.

Variables	Hill (n=34)	Valley (n=46)	P value
Did not go to doctor (treatment ineffective/ dangerous)	41.2%	10.9%	0.008
Preferred local quack/medicine man	29.4%	60.9%	0.008
Self-treatment with plants/OTC drugs	14.7%	17.4%	0.77
Immediate doctor consultation	14.7%	10.9%	0.68
Reported lack of privacy as barrier	41.2%	65.2%	0.054

Cultural beliefs

Orthodox beliefs regarding the cause of LBP varied between groups. In hill areas, nearly half (44.1%) attributed LBP to divine punishment for wrongdoing, whereas in the valley, 47.8% attributed it to evil spirits. Only 16.3% reported no such beliefs.

Table 4: Cultural beliefs regarding LBP.

Belief	Hill (n=34)	Valley (n=46)	P value
Evil spirit	17.6%	47.8%	0.035
Divine punishment	44.1%	21.7%	0.035
Food poisoning by enemies	20.6%	15.2%	0.57
No such belief	17.6%	15.2%	0.81

DISCUSSION

Both health and illness are cultural concepts and due to the presence of a complex relationship between socio-cultural factors and health it is important to understand that socio-cultural factors have a vital influence on illness, beliefs, health care practices, health-seeking activities and receptivity to medical care interventions. In order to maximize the chance for effective management of back pain within each cultural group, back pain must be viewed from the perspective of community specific psychological and social belief systems because our culture shapes how we perceive, experience and manage health and illness.^{10,17}

These socio-cultural factors affect individuals and society in different ways and can create inequality in the burden of disease within a population. Health care providers (HCPs) therefore need to be aware of the cultural, social and political context of back pain patients as well as their own cultural belief system. In the present study it was observed that social class has a role in back pain among the participants. More than half (52.2%) of the

respondents from valley area with back pain belonged to lower middle class whereas around two-fifths of the participants from hill areas (41.2%) were among those who belonged to lower class. Similar findings were observed in a study conducted in six SAGE (Study on global ageing and adult health, by WHO) countries of the world where back pain is highest among lowest wealth quintile (36.2%).¹⁸ This shows that based on their social status and class, individuals can experience differences in exposure and vulnerability to health conditions. Previous literatures have shown public health problems to be unequally distributed in society with the most disadvantaged people having the greatest burden of disease.^{6,7} In a study conducted by Rodrigues-de-Souza et al they found that the rich suffer less as compared to the poor.¹⁸ Similar findings were also observed in this study where only few participants from upper and upper middle class had back pain. This may be because they have access to better health care and occupations while the poor most likely suffer more owing to their economic limitations.

In this study 47.1% of the respondents from hill areas with back pain were among those who had no formal education and 45.7% among valley area respondents were among those who had studied up to class V only. Williams et al reported that 61.1% of the respondents with LBP had no primary education.¹⁹ Similarly, Shmagel et al also reported LBP more among those whose literacy was less than high school.⁴ This could be because more educated people would have better knowledge about how and when to seek medical care and understanding the cause of their problem.

This study shows that there is also a significant association between LBP and occupation. It is found that back pain is more common among participants from hill areas whose occupation is farming. This may be due to more frequent bending in an inclined position while working in hill slopes for prolonged hours. Back pain is also more among participants (57.5%) who were actively involved in household activities. This may be due to strenuous household activities such as carrying water/heavy objects or food/crops.

In this study majority of the participants from hill areas responded that community resources are available for fitness and wellness but at a distance and not accessible whereas in valley area majority expressed that such resources are available and also easily accessible. This shows that the valley area has better facilities for people where they can go for regular walks and do physical activity. This is quite significant as having a physically active lifestyle is important in case of back pain.

The present study also showed that majority of the participants from hill areas suffering from back pain have more difficulty in health care accessibility as health centres are located at a distance of more than 10 km for most of them as compared to valley area where majority

have health centres within 5 km distance. This could be the reason why patients from hill areas usually come to the OPD at an advanced stage. Many of them also expressed that there was irregularity in the presence of medical staff in their local health centres.

In our study, around three-fourth of the study participants (76.3%) did not go to the HCPs because of various reasons such as lack of privacy during examination, HCP from different community etc. These patients mostly opt for treatment from local quack/medicine men in the form of medicinal plant, rituals, offering to God etc., followed by self-management with over-the-counter medications.

Majority of the respondents from hill areas have the orthodox belief that back pain is some sort of divine judgement handed down by God for wrong doing whereas in valley area majority of the respondents have the orthodox belief that back pain is due to the work of evil spirits and sorcery. May be because of their orthodox beliefs, majority of the participants from hills area do not go to the doctor because of the common belief that medical treatment is not effective or dangerous whereas in the valley area majority of the respondents preferred to go to the local quacks/medicine men for treatment of LBP which they believe to be the work of evil spirits. This shows that majority of the respondents in both the areas have poor health seeking behaviour which could be related to the irrespective cultural belief systems. Therefore, HCPs should be aware of such cultural beliefs which can act as barriers when dealing with patients with LBP. In order to identify such cultural beliefs and attitudes about back pain good communication practices are vital. When HCPs treat patients without fully understanding their beliefs and attitudes towards back pain, it can result in a poor HCP-patient relationship and in some cases explicit disagreement. Some of the limitations of this study are due to the cross-sectional nature of the study. There is limitation in terms of interpreting causal association and we should also be cautious about generalizing the study findings due to the hospital-based nature of the study. Since it was an interview schedule, some of the patients may provide with socially desirable answers to some of questions such as go to doctor when in reality prefer for local quack or vice-versa etc. which may under estimate or overestimate the study findings. The main strength of this study is that it was the first study of its kind to see socio-cultural factors related to back pain in Manipur among two different groups of people with significant differences in culture and lifestyle.

CONCLUSION

This study demonstrates that socio-cultural and socioeconomic factors strongly influence the perception, prevalence, and management of LBP among hill and valley populations in Manipur. Differences in education, occupation, healthcare access, and cultural beliefs-such as attributing pain to divine or supernatural causes - shape

distinct health-seeking behaviours. Addressing these disparities requires culturally sensitive health education, improved accessibility to care, and stronger community engagement. Integrating local belief systems into public health strategies can enhance the effectiveness of musculoskeletal care and promote equitable health outcomes.

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