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SOCIOCULTURAL DETERMINANTS OF HYPERTENSION MANAGEMENT IN PAKISTAN

Original Article

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ABSTRACT

Background: Hypertension, defined as sustained elevated blood pressure (systolic ≥130 mm Hg and/or diastolic ≥90 mm Hg), is a leading global health concern, significantly contributing to cardiovascular diseases, kidney failure, and mortality. In low- and middle-income countries like Pakistan, where healthcare systems are under-resourced, sociocultural factors pose significant barriers to effective hypertension management. This study investigates the sociocultural determinants influencing hypertension management in Thatta, a rural district of Pakistan, to inform culturally appropriate healthcare interventions.

Objective: To explore the sociocultural determinants affecting adherence to hypertension management among patients in rural Thatta, Pakistan.

Methods: A descriptive cross-sectional study was conducted among 260 hypertensive patients attending the outpatient department of Civil Hospital Thatta. Participants were selected using simple random sampling. Data were collected through pre-tested questionnaires and analyzed using SPSS version 29. Inclusion criteria consisted of adults aged ≥18 years with a confirmed diagnosis of hypertension, while individuals with severe comorbidities were excluded. Ethical approval was obtained, and informed consent was secured from all participants before data collection.

Results: The majority of participants were aged 36-45 years (31.2%) and male (63.1%). Traditional high-salt foods were identified as a major barrier by 47.3% of participants, while 11% relied on traditional remedies over prescribed medications. Social gatherings contributed to non-compliance in 30% of cases, and 6% of women cited cultural norms limiting physical activity as barriers. Lower educational attainment and lack of social support further impeded adherence to treatment guidelines, with 43.8% having completed matriculation and only 2.3% holding postgraduate qualifications.

Conclusion: Sociocultural factors, including dietary habits, reliance on traditional medicine, gender-specific barriers, and limited education, significantly influence hypertension management in Thatta. Addressing these barriers through culturally sensitive and context-specific interventions is essential to improve patient outcomes and reduce the burden of hypertension in similar rural settings.

Keywords: Adherence, Cultural, Determinants, Hypertension, Lifestyle, Social, Sociocultural.

INTRODUCTION

Hypertension, a condition characterized by persistently elevated blood pressure, is defined as a systolic blood pressure (SBP) of 130 mm Hg or higher and/or a diastolic blood pressure (DBP) of 90 mm Hg or higher. It is a leading global health concern, often described as the "silent killer" due to its asymptomatic nature, which affects an estimated 1.13 billion people worldwide. Despite its preventable and manageable nature, hypertension remains a significant contributor to cardiovascular diseases (CVD), stroke, kidney failure, and mortality, particularly in low- and middle-income countries (LMICs) where healthcare systems are under-resourced and face numerous sociocultural challenges (1, 2). In Pakistan, hypertension affects approximately 18% of the population, with prevalence rates escalating among adults over 40 years of age. As a primary risk factor for heart disease, strokes, and kidney dysfunction, hypertension contributes heavily to national morbidity and mortality rates (3, 4, 5). However, despite the availability of healthcare services to address chronic conditions like hypertension, the integration of sociocultural factors into management strategies remains inadequate. Patients encounter barriers such as limited access to care, insufficient awareness of lifestyle changes, and entrenched cultural practices that hinder effective management. For instance, the traditional Pakistani diet, rich in salt and fat, exacerbates the risk of hypertension, while reliance on herbal remedies or traditional healers in rural areas often undermines compliance with prescribed medical treatments (6, 7, 8). These practices stem from mistrust of modern medicine, further complicating the management of hypertension (20, 21, 22).

Sociocultural determinants such as education, socioeconomic status, cultural norms, and social support systems profoundly shape individuals' health behaviors. In the context of hypertension, these factors influence patients' ability to adhere to lifestyle modifications, take medications consistently, and seek timely medical care. For example, women in Pakistan frequently encounter gender-specific barriers, including restricted mobility and limited opportunities for outdoor physical activity due to cultural norms, which hinder their ability to manage hypertension effectively (23, 24). Conversely, individuals with strong familial and community support are better equipped to implement and sustain recommended health practices, highlighting the importance of social networks in chronic disease management. Although extensive research has been conducted on the prevalence and clinical management of hypertension, there remains a significant gap in understanding the sociocultural determinants that affect its management, particularly in Pakistan. By focusing on the barriers and challenges unique to patients in Thatta, this study aims to provide insight into the role of sociocultural factors in influencing compliance with hypertension management. The findings are expected to inform healthcare providers and policymakers, enabling them to design culturally sensitive interventions that address these challenges and improve outcomes for hypertensive patients in the region. The ultimate objective is to enhance the effectiveness of hypertension management by integrating sociocultural considerations into health strategies and policies.

METHODS

The study utilized a descriptive cross-sectional design to examine the sociocultural determinants influencing hypertension management among patients in Thatta, a rural district in Sindh, Pakistan. The research was conducted in the outpatient department (OPD) of Civil Hospital Thatta, a public healthcare facility that caters to a large population, including individuals with hypertension. This setting was selected due to the high prevalence of hypertension and the unique sociocultural challenges faced by patients in this region, where traditional cultural practices and limited healthcare access due to socioeconomic barriers are common. The study included a total of 260 hypertensive patients, determined through a standard formula for cross-sectional studies with a 95% confidence interval to ensure statistical reliability. Patients were selected using a simple random sampling technique, allowing every hypertensive patient visiting the OPD an equal opportunity to participate. This approach reduced selection bias and enhanced the generalizability of the findings. Inclusion criteria comprised adults aged 18 years or older with a confirmed diagnosis of hypertension, while patients with severe comorbid conditions, such as advanced renal disease or ongoing treatment for acute medical emergencies, were excluded to maintain homogeneity in the sample.

Data were collected using a pre-tested and structured questionnaire developed based on validated tools from prior studies. The questionnaire included sections addressing demographic details, sociocultural factors, and compliance with hypertension management. A pilot test was conducted to ensure clarity, reliability, and relevance of the questionnaire items in the context of the study population. Responses were collected through face-to-face interviews to account for literacy limitations and ensure accurate data acquisition. Ethical considerations were strictly adhered to throughout the study. Informed consent was obtained from each participant after providing detailed information about the study's purpose, procedures, and potential benefits. Participants were assured of their right to withdraw at any stage without any repercussions. Ethical approval was granted by the Ethical Review Board of the institution, with reference number. Confidentiality of participants' data was maintained by anonymizing responses and securely storing the data. Statistical analyses were conducted using appropriate software to ensure robust evaluation of the data. Descriptive statistics were employed to summarize demographic and sociocultural characteristics, while inferential tests, such as chi-square and logistic regression, were applied to identify associations between sociocultural determinants and hypertension management practices. The results provided valuable insights into the interplay of cultural, social, and economic factors affecting hypertensive patients' adherence to management strategies.

RESULTS

The findings of this cross-sectional study, conducted among 260 hypertensive patients in Thatta, revealed key demographic, sociocultural, and behavioral factors affecting hypertension management. The majority of participants (31.2%) were aged between 36 and 45 years, followed by those aged 46 to 55 years (23.1%), with 18% aged 56 years and above. Participants aged 26 to 35 years accounted for 15%, while the youngest age group, 20 to 25 years, comprised 12.7%. The study observed a higher proportion of male participants (63.1%) compared to females (36.9%). Educational attainment was primarily concentrated at the matriculation level, with 43.8% of participants completing this stage, followed by 30.8% having an intermediate education. Graduates accounted for 21.9%, while only 2.3% of participants held postgraduate qualifications, and 1.2% reported having no formal education. In terms of occupation, 29.6% of the participants were retired, while 21.5% were unemployed. Students constituted 17.3%, and employed individuals accounted for 11.2%. The "other" category, including informal or part-time work, represented 20.4%.

Table: Demographic Characteristics of Participants

Age Group	Frequency (%age)	Education Level	Frequency (%age)
20-25	33 (12.7%)	Post Graduate	6 (2.3%)
26-35	39 (15.0%)	Graduate	57 (21.9%)
36-45	81 (31.2%)	Intermediate	80 (30.8%)
46-55	60 (23.1%)	Matriculation	114 (43.8%)
56 and above	47 (18.0%)	No formal education	3 (1.2%)
Total	**260 (100.0%)**	**Total**	**260 (100.0%)**

Cultural determinants were found to significantly impact hypertension management. A notable 47.3% of participants identified traditional foods high in salt and spices as a major barrier to maintaining a healthy diet. Additionally, 11% of respondents reported preferring traditional remedies over prescribed medications. Gender-specific barriers were reported by 6% of participants, with women highlighting restrictions on outdoor physical activity due to cultural norms. Social gatherings also posed challenges, with 30% of participants indicating difficulty adhering to dietary recommendations during communal meals where high-salt traditional foods were prevalent. A smaller proportion, 5.7%, reported a lack of social support as a barrier to hypertension management. These findings underscore the interplay of sociocultural and behavioral factors in shaping hypertension management behaviors, with dietary practices, cultural beliefs, and social structures playing pivotal roles in adherence to recommended protocols.

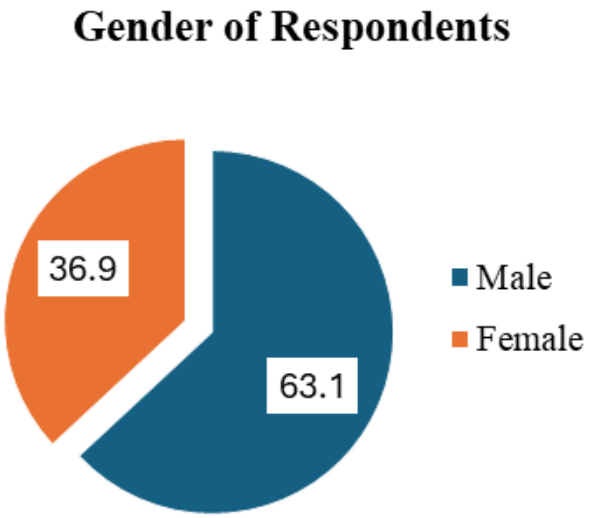
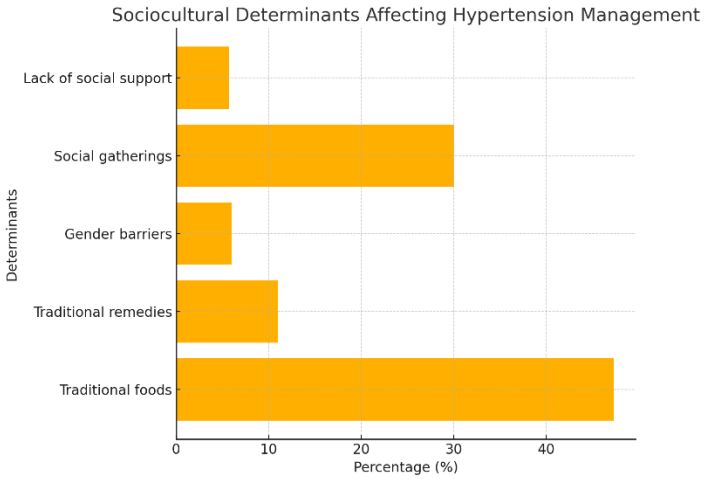
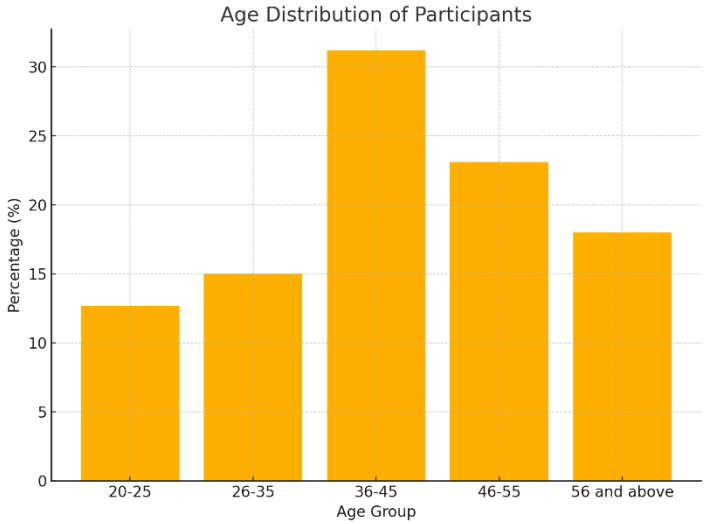


Table: Occupational Status and Sociocultural Determinants of Hypertension Management

Occupation	Frequency (%age)	Sociocultural Determinants	Frequency (%age)
Employed	29 (11.2%)	Traditional foods (high in salt and spices)	123 (47.3%)
Unemployed	56 (21.5%)	Traditional remedies over prescribed medicine	29 (11.0%)
Retired	77 (29.6%)	Gender discrimination for outdoor activities	16 (6.0%)
Student	45 (17.3%)	Social gatherings	77 (30.0%)
Other	53 (20.4%)	Lack of social support	15 (5.7%)
Total	**260 (100.0%)**	**Total**	**260 (100.0%)**





DISCUSSION

The findings of this study provide critical insights into the sociocultural determinants of hypertension management in Thatta, a rural district of Pakistan, and underscore the multifaceted challenges faced by hypertensive patients in adhering to management protocols. The interplay of cultural, social, and economic factors was found to significantly influence the ability of individuals to effectively manage their condition, aligning with existing literature on the impact of non-medical determinants in chronic disease management. Traditional dietary practices emerged as a prominent barrier, with a significant proportion of participants identifying foods high in salt and spices as a challenge in adhering to a heart-healthy diet. This aligns with previous research that emphasizes the role of traditional dietary patterns in increasing hypertension risk, particularly in developing countries where cultural norms heavily influence nutritional habits (25). Social gatherings further exacerbated this issue, as participants reported difficulty maintaining dietary restrictions during communal meals, where cultural and social expectations often outweighed individual health priorities. These findings highlight the necessity of culturally sensitive dietary interventions that promote healthier alternatives while respecting traditional practices.

The reliance on traditional remedies over prescribed medications was another key factor, particularly in rural areas where trust in modern medical practices is often limited. This preference for traditional medicine, coupled with inadequate access to healthcare facilities, negatively impacts adherence to prescribed hypertension management guidelines. Previous studies have similarly identified this trend, noting that the integration of culturally appropriate educational initiatives is critical to improving trust and compliance with modern medical treatments (26). Efforts to address these challenges must involve building rapport between healthcare providers and patients, promoting awareness about the efficacy of evidence-based treatments, and ensuring equitable access to healthcare services. Gender-specific barriers to hypertension management were also evident, with female participants reporting limited opportunities for outdoor physical activity due to cultural norms that restrict mobility. This aligns with earlier studies that highlight the impact of gender on health behaviors in South Asian cultures, where women often face constraints in prioritizing their health needs (27). Restricted physical activity is a significant risk factor for hypertension progression, underscoring the importance of targeted interventions that address these disparities. Programs designed to create safe and culturally acceptable spaces for women to engage in physical activity could play a pivotal role in mitigating this barrier.

Social support systems were found to be critical in influencing adherence to hypertension management strategies. Patients with limited familial or community support reported greater difficulty maintaining lifestyle changes and following medical advice. These findings are consistent with research indicating that social isolation negatively impacts the management of chronic diseases like hypertension (28, 29, 30). Interventions aimed at fostering strong support networks within families and communities could enhance patient compliance and long-term disease management outcomes. Education and employment status also emerged as significant determinants of hypertension management. Participants with lower educational attainment faced greater challenges in understanding and adhering to medical guidelines, which corroborates existing evidence linking health literacy to chronic disease management outcomes (31, 32). Similarly, unemployed or retired individuals encountered economic barriers, such as limited financial resources to access healthcare or afford healthier dietary options. These socioeconomic factors highlight the importance of addressing broader systemic issues, such as poverty and healthcare inequity, to ensure that all individuals can access and adhere to effective hypertension management strategies.

While this study provides valuable insights, it is not without limitations. The cross-sectional design restricts the ability to establish causal relationships between sociocultural determinants and hypertension outcomes. Additionally, the reliance on self-reported data may have

introduced recall bias, particularly in areas related to dietary practices and medication adherence. Future studies could benefit from a longitudinal design to better understand temporal relationships and the long-term impact of sociocultural factors on hypertension management. Expanding the sample size and incorporating more diverse geographic regions would also improve the generalizability of the findings. Despite these limitations, this study offers important contributions by highlighting the need for culturally tailored and context-specific interventions to address the sociocultural barriers faced by hypertensive patients in rural Pakistan. Future research should explore innovative strategies that integrate cultural sensitivity, gender inclusivity, and socioeconomic support to improve hypertension management outcomes and reduce the burden of this condition in similar settings.

CONCLUSION

This study explored the sociocultural factors influencing hypertension management in rural Thatta, Pakistan, revealing how traditional diets, reliance on alternative remedies, and gender-related barriers significantly impact adherence to medical treatments. The findings underscore the importance of culturally sensitive interventions that address these challenges while respecting local customs and beliefs. By integrating tailored health education, community support systems, and gender-inclusive strategies, healthcare providers and policymakers can improve hypertension control and enhance patient outcomes. This research highlights the critical role of sociocultural determinants in shaping health behaviors and calls for comprehensive, context-specific approaches to managing chronic conditions in similar settings.

Author Contribution

Author	Contribution
Abdul Razzaque Nohri	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published

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