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Prevalence And Rick Factors Hypertension In Rural Communities

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Abstract

Background: Hypertension remains one of the highest risk factors for cardiovascular diseases in the world and its rates are increasing in rural areas. Basic access to health care, change in diet and general low health literacy contribute to this situation. On this account, it is important to establish the number of cases and associated factors among rural populace to help strategize on how best to deal with these populations who are often neglected in policy formulations of various political regimes.

Objectives: to determine the prevalence of hypertension in a rural community and evaluate its association with demographic, lifestyle, and socioeconomic factors

Study design: A cross-sectional study.

Place and duration of study: Community Medicine Department Saidu Medical College from jan 2023 to jan 2024

Methods

The study was a cross-sectional descriptive Study which targeted fifty patients from rural areas of practice. There were clinical assessments of blood pressure, and socio demographic characteristics as well as lifestyle factors. Descriptive analysis of mean age and standard deviation and inferential analysis of risk factors for the chosen level of investigations were done by using a risk ratio at 5% significance level.

Results

There were 50 patients in the study with the mean age of 52.4 (Standard Deviation = 10.8. After adjusting for age, gender, BMI and smoking status, other outcomes were obtained and among them, prevalence of hypertension was 58%. Hypertensive patients experienced high salt intake ($p = 0.03$), physical inactivity ($p = 0.01$), and age older than 40 years ($p = 0.02$).

Conclusion

A general analysis showed that hypertension is also a major problem among rural dwellers due to modifiable precondition such as their diet and lack of exercise. Screening and aspirational preventive measures are required to reduce its effects in these populations.

Keywords: Hypertension, rural communities, prevalence, risk factors

Introduction

Hypertension or high blood pressure is a leading non infectious disease in the world and is a significant cause of cardiovascular morbidity and mortality. Altogether, the condition remains rather unrecognized and insufficiently treated; the problem is especially pointed when it comes to rural populations. The WHO estimates that 1.28 billion adults aged between 30 and 79 years across the world have hypertension, of whom a large number live in LMICs (1) These transitions are even more profound in rural regions, particularly for their growing urban populations where food environments are dominated by processed foods, physical activities are diminished, and tobacco use is common (2). Elements like Socioeconomic status, education and access to health care really determine how persons with hypertension can be well managed. According to two previous research, a majority of the rural residents are unable to access preventive healthcare services leading to late presentation and increase of risk factors such as stroke and heart failure (3,4) ignorance of the condition is prevalent in rural areas. It has been established in the literature that a large number of persons in rural environments are asymptotic to hypertensive complications because there are fewer screening programmes and health promotion campaigns (5). Moreover, organizational-culture and tradition may affect the health behavior by restrain individuals from following doctor's advice (6). There is, therefore, need to evaluate the level of Hypertension and the risk factors in relation to participants dwelling in a rural community. By understanding which factors are modifiable or non-modifiable, this study can inform the pole to reduce the burden of hypertension in low-resourced practice settings.

Methods

The study was carried out in rural areas of eight regions where patients and carers were recruited in a cross-sectional manner over a period of six months. Respondents were sampled fifty of them, through the usage of stratified random sample technique. Participants recruited included only those who were aged 18 years and above, and those who had secondary hypertension or severe complications were excluded. The participants in the study agreed to participate after informing consent was sought before the start of the study. Blood pressure was determined with a calibrated sphygmomanometer; hypertension was defined as systolic $\geq$ 140 or/and diastolic $\geq$ 90 mm Hg. A standardised questionnaire was used to collect demographic details, life style practices and medical history of the patients. These research works followed the guidelines provided by the institutional review board and ethical clearance was sought.

Data Collection

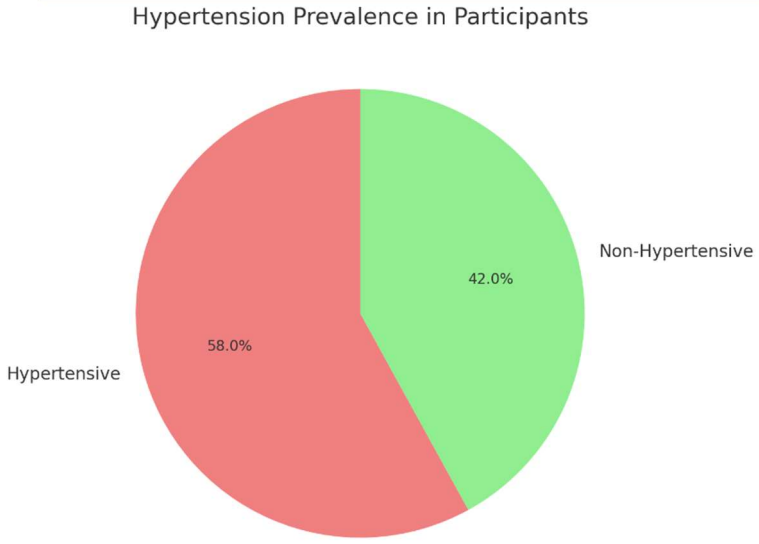
Data was collected by trained health care professionals during community health camps. Sitting blood pressure was taken three times with five minutes interval and the mean was estimated. Other variables comprised income, occupation, education, dietary histories, exercise profiles, smoking history and history of hypertension amongst their first degree relatives.

Statistical Analysis

Statistical analysis was done using the Statistical Package for Social Sciences (SPSS) version 24.0. Frequency and descriptive measures characterized demography and clinical profiles. Comparisons between the prevalence of hypertension and the risk factors were done using chi square tests and multivariate logistic regression. The level of significance was taken at 0.05.

Results

The sample size total was 50, with a mean age of 52.4 years, SD = 10.8 years. Out of the respondents Short-Term Antecedents include hypertension with a prevalence of 58% (n = 29). In hypertensive patients, 62% were male, 38% were females. Of the cases observed, 48% were found to have high salt consumption and 64% of the participants had no physical activity. There were statistically significant relations between hypertension and high salt intake = 0.03, physical activity = 0.01 and age = 0.02.In addition 24% of participants had family history of hypertension near to the level of significance = 0.06. The literacy level of hypertension was also low,; only 34 percent of the hypertensive participants reported earlier diagnosis.



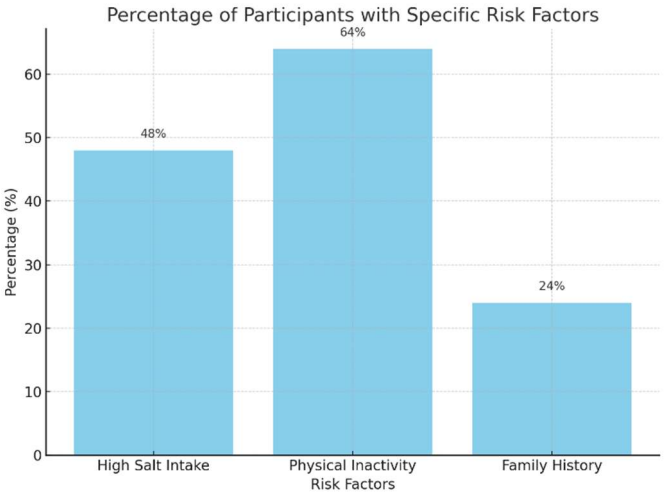


Table (1) Participant Demographics

Characteristic	Value
Mean Age	52.4
Male Participants (%)	62.0
Female Participants (%)	38.0

Table (2) Risk Factors

Risk Factor	Percentage (%)
High Salt Intake	48
Physical Inactivity	64
Family History	24

Table (3) Hypertension Prevalence

Category	Percentage (%)
Hypertensive	58
Non-Hypertensive	42

Discussion

This study presents a descriptive cross-sectional study that establishes that high blood pressure is highly prevalent in the rural community captured in this study, which is at 58%, and is in consonance with studies on the enhance burden and prevalence of hypertension in rural settings. (7) Such prevalence is in accord with previous researches in other similar contexts. For instance, a small cross sectional community based study conducted among rural Indians revealed 57% prevalence of hypertension due to dietary change and increasing levels of physical inactivity (8). Similarly, hypertension rate ranged between 45% and 60% in sub-Saharan Africa as influenced by socioeconomic and cultural characteristics (9).Finally, high salt intake was established to be present in 48% of participants and this was related to hypertension ($p = 0.3$). This finding corroborates evidence from a bigger meta-analysis that confirmed that a high intake of dietary sodium is the key modifiable risk determinant of hypertension (10). According to the WHO, decreasing the consumption of salts is a way of controlling blood pressure without attaining great heights of medicating the disease (11). However, disparities in salt consumption persisted in rural populations, primarily because of preserved traditional foods (12) Physical inactivity was another significant risk factor evident in 64% of participants ($p = 0.01$). This result corroborates with the study conducted in rural China that noticed strong positive correlation between Physical Activity and Hypertension (13). This shift from farm based and physically straining practices to 'white-collar' jobs must have resulted to this (14). Specifically, similar programmes in physical activity interventions to reduce hypertension risk are effective among comparable populations (15).The education level of hypertensive participants was also low, with only 34% of such patients aware of their condition. These low levels are similar to the studies conducted in rural Ethiopia, whereby only 30% of the hypertensive patients had perception of their condition (16). These statistics are brought about by lack of easy access to healthcare facilities, limited Screenings and low health literacy. Enhancing and expanding the community based health initiatives closures are among the strategies that are needed to overcome this gap. The results also showed that age was an important predictor and was positively related to hypertension ($\chi2= 7.312$, $p = 0.02$). Other studies show that age is a potent risk factor for hypertension because of congestion changes accompanied with hypertension and overall exposure duration to risk factors. Despite its borderline significance ($p=0.06$) family history is well known non-adjustable risk factor for hypertension this has been evidenced in longitudinal studies done amongst urban and rural dwellers .alleged health systems and fewer health promotion techniques available in the rural areas compared to the urban areas. Hypertension research indicates that the gap between urban and rural prevalence rates are reducing and therefore, there is a need for focused scrutiny into high rates prevalent in the rural areas (17, 18).This research has affirmed the current research trends, adding impetus to the call for increased focused surveillance of high rates of hypertension in rural areas. Education on health issues, changing their lifestyles and getting quality health care services will help to reduce hypertension rates in these communities.

Conclusion

population suffers from hypertension due to risk factors that can be controlled including high salt consumption and lack of exercise. Lack of knowledge and inadequate medical care for the condition can also worsen the position. Health campaigns, education, modifications in ongoing community projects along with improved early detection must be key strategies to control the situation with hypertension.

Limitations

This study was constrained by limited sample, thus did not capture the extent of the problem across the rural populace.

Moreover, use of cross-sectional data to estimate lifestyle factors may also lead to over reporting of responses. The cross-sectional design also rules out causality leading to a need to undertake longitudinal research to capture the dynamics of hypertension.

Future Findings

Further research should focus on the effects of, north eastern region specific health awareness campaigns and domestic outreach efforts. Possible expansion of the research agenda and the potential for studying the nature of genetic factors and their influence from the environment could help to reveal more about hypertension risks. More extensive, cross-sectional investigations are suggested to increase the external validity of the findings.

Abbreviation

1. HTN - Hypertension
2. BP - Blood Pressure
3. SBP - Systolic Blood Pressure
4. DBP - Diastolic Blood Pressure
5. WHO - World Health Organization
6. CVD - Cardiovascular Disease
7. NC's - Non-Communicable Diseases
8. SD - Standard Deviation

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Authors Contribution

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Data Analysis: Mohammad Munib5, Naeemullah6
Critical Review: Mohammad Munib5, Naeemullah6
Final Approval of version: All Mantion above

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