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PREVALENCE OF HYPERTENSION AND ASSOCIATED RISK FACTORS AMONG ADULTS IN A RURAL COMMUNITY OF VADODARA: A CROSS-SECTIONAL STUDY

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Abstract

Introduction: According to the World health organization, Hypertension or high blood pressure is a leading health concern today causing premature mortality and long-term health issues globally. It is mostly linked to urban populations but the disease is now also being seen in rural parts of India, which further worsens the situation as the region has limited healthcare facilities and lesser awareness about this chronic illness.

Objectives: The primary purpose of the study was to determine the prevalence of the disease and identify the risk factors that could be associated with the conditions in adults living in Piparia village of Vadodara district.

Methodology: This cross-sectional community study was carried out in Piparia village Waghodia Taluka in the district of Vadodara. The participants included all the adults of 18 years and above who were permanent residents of the ward. Through systematic random sampling of households, we selected one adult per household using the last birthday method until we reached the target sample size of 318. Data was gathered through a pretested structured questionnaire which included the socio demographic and lifestyle information, medical history, blood pressure readings obtained through a digital sphygmomanometer, height measurements from stadiometer, weight ascertained from digital weighing scale, waist circumference using non-stretchable tape, and Hypertension was defined as blood pressure ≥140 mmHg systolic or ≥90 mmHg diastolic. Descriptive statistics and logistic regression analysis ($p < 0.05$) were used to analyse the data. Ethical approval was obtained from the Sumandeep Vidyapeeth Institutional Ethical Committee.

Results: The overall prevalence of hypertension among the 318 adult participants was 20.4% (95% CI: 16.1 - 24.7). Prevalence significantly increased with age. Logistic regression analysis revealed that older age (AOR 1.03, p=0.002), no formal education (AOR 2.80, p=0.023), physical inactivity (AOR 1.85, p=0.008), high estimated salt intake (AOR 2.20, p=0.001), current tobacco use (AOR 1.65, p=0.049), being overweight (AOR 1.70, p=0.042), obesity (AOR 2.50, p=0.011), and abdominal obesity (AOR 1.95, p=0.015) were significantly associated with hypertension.

Conclusion: This study confirms a significant burden of hypertension (20.4%) in this rural Vadodara community, comparable to other rural Indian settings. Key associated factors include increasing age, lower education level, physical inactivity, high salt intake, tobacco use, and excess body weight. These findings underscore the urgent need for targeted community-based screening, health education, and management programs to address hypertension and its modifiable risk factors in similar rural populations.

Key words: Hypertension, prevalence, risk factors, rural areas, adults.

Introduction

High blood pressure is one of those everyday challenges that quietly turns into a major health worry for so many.[1] Often called hypertension, it happens when your blood pressure remains elevated – generally, the systolic reaches 140 mmHg or more, or the diastolic drifts up to 90 mmHg and beyond. In simple talk, this means your heart's working extra hard, and it's a key reason why too many lives get cut short or run into long-term health issues.[1] The World Health Organization, for instance, has set an ambitious target: to slash the overall cases by about 33% between 2010 and 2030; this moves underlines just how much this condition adds to the global disease burden.[1] Looking at India, the picture gets even more interesting—studies point out that rising numbers aren't confined to just busy urban centres but are also creeping into rural areas, which over the past few decades have shown a steadily climbing trend in high blood pressure cases.[2][3] Rural areas often struggle with uneven healthcare services—access, awareness, and management can all be patchy, leaving many high blood pressure cases unnoticed or poorly managed compared to urban locales. It's worrisome, really, how these gaps tend to pile up, making rural communities more vulnerable.[3][4]

Take Vadodara district in Gujarat, India; a big chunk of its population lives outside city limits, adding a unique twist to the problem.[5] Sure, some research has shed light on hypertension in the region, including Vadodara, but generally speaking, we still need a lot more local insights to pinpoint the true risks and burdens in each rural setting.[2][3] Grasping how common high blood pressure is—and spotting the main factors behind it—in local communities is generally seen as a key step to shaping and rolling out public health programs that really cater to the unique needs of that population. Therefore, this cross-sectional study aims to investigate the prevalence of hypertension and its associated risk factors among the adult population residing in a rural community in Vadodara district.[6][7][8]

Aim and Objectives

Aim –

The main purpose of the study is to estimate the prevalence of hypertension and its associated risk factors among the adult population of Piparia village, Vadodara.

Objectives –

1. To estimate the number of study participants found to have hypertension who fall within the adult age group (18 years and above).
2. To estimate the prevalence of socio-demographic risk factors for hypertension within the study population, which consists of age, sex, educational qualifications, occupation, socio-economic class (assessed by the Modified Kuppuswamy scale).

3. To estimate other lifestyle habits that emerged as risk factors for developing hypertension, which include level of physical activities, dietary habits.

4. To estimate the prevalence of anthropometric risk factors for hypertension, which include measured body mass index (BMI) and waist measurement for assessment of abdominal obesity.

5. To examine the relationship between the identified hypertensive socio-demographic, lifestyle, and anthropometric risk factors in the study population.

Materials and Methods

Study Design –

This is a community-based cross-sectional study.

Study Setting –

The research was carried out in Piparia village, located in the Waghodia Taluka of Vadodara district, within the state of Gujarat, India, between March 2022 and August 2022. This specific geographical location was crucial for focusing the study on a defined rural community within Gujarat.

Study Participants –

The target population for this study comprised all adult individuals aged 18 years and above who are permanent residents of Piparia village, Vadodara district, Gujarat.
For the purpose of this research, a permanent resident is defined as an individual who has resided in Piparia village for a continuous period of at least one year prior to the commencement of data collection and considers Piparia their primary place of residence.

Selection of the participants –

Inclusion criteria

- Adults who are willing to participate in the study.

Exclusion criteria

- Individuals who suffer from debilitating cognitive impairment preventing them from giving informed consent or answering the questionnaire reasonably.
- People who do not wish to take part or give informed consent.

Sample Size –

This study will use the sample size formula for prevalence studies. Using previous literature, the estimated prevalence of hypertension in rural India is about 27.3 percent.[9] In order to have a 95 percent confidence level and a 5 percent margin of error, the sample size required will be estimated to be 318 participants.

Study period –

Study was done over a period of 6 months after getting approval of Sumandeep Vidyapeeth Institute Ethical Committee (SVIEC), first three months for data collection and last three months for data analysis and interpretation.

Sampling Technique –

To create a representative sample of the adult population in Piparia village, a multi-stage sampling method was incorporated.
(a) Obtaining the Household List: The initial task was to procure an exhaustive and up-to-date file of all the households in Piparia village which is maintained by the Panchayat office at the village level. A written application was made to the Panchayat stating the objectives of the study and justifying the need for the household list in conducting a scientifically accurate sampling process.
(b) Assigning Unique Identification Numbers: As soon as the household was prepared, an identification number was allocated to each household in such a manner that no two households shared the same number. The numbering began at 001 and progressed until every household on the

list was covered. This structured tagging of identification also provided complete coverage establishing the sampling frame for the study.

(c) Systematic Random Sampling: The necessary number of households were selected using a systematic random sampling method. Let N denote the total number of households in the village as captured in the Panchayat list. With an approximate target sample size of n = 64 households (noted from the participant number and assuming a certain number of eligible adults per household, or perhaps oversampling due to lack of response), the sampling interval (k) was determined by the equation k = N/n. For example, if the obtained household list contains 400 households, and the target is 64 households, the sampling interval would be 400/64 = 6.25. This interval was rounded down to the nearest whole number, resulting in a sampling interval of k = 6.

To begin the systematic selection procedure, a random point was chosen in the first sampling interval (1 to k, or 1 to 6 in our case). This starting number was generated through a random number generator. To further clarify this point, if the random number chosen was 3, this means that the third household on the listed numerical order was the first household selected for the study. In relation to this, further household selection would be done by adding the sampling interval (k) to the last selected household's identification number. In this case, the selected households would be 3, 9 (3+6), 15 (9+6), etc. This process would be continued until the desired number of households, approximately 64, was accumulated. In systematic selection cases where the total number of identified households (N) was exceeded, a wrap-around procedure was utilized. If N = 400 and the last number chosen systematically was 399, the next number would be expectedly chosen to be 399 + 6 = 405. Since the total number of households available is 400, 405 becomes the wrap around choice, leading to the selected identification number of 5 (405 - 400 = 5). This process of adding the sampling interval and wrapping around when necessary was continued until the desired number of unique households (approximately 64) has been selected.

(d) Random Participant Selection within Households: Upon visiting each of the selected households, the research team first identified all eligible adults residing in the household who meet the study criteria (aged 18 years and above and permanent residents of Piparia village). If there is more than one eligible adult within a selected household, a method for randomly selecting one participant was employed to ensure each eligible individual has an equal chance of participation. The last birthday method was the primary approach for this selection. A research team member inquired about the date of birth of each eligible adult in the household. The adult whose birthday occurred most recently prior to the date of the household visit was invited to participate in the study. If two or more eligible adults in the same household share the same last birthday, a simple lottery method was used to randomly select one participant. Each eligible adult who had celebrated a birthday most recently had their names written on identical slips of paper – one slip for each adult. The slips were folded and put in a container. Either a research team member or a neutral person in the house would forensically draw a slip from the container. The person whose name received the slip would be told to participate in the study. To mitigate the chances of non-response or not attending the study, in case the chosen participant was not present at the first visit for whatever reason, the research team set two extra meeting times at differing days and times with the primary study participant to attempt to get them to join the study. Should the selected participant keep refusing after all attempts have been made, the rest of the attempts would be marked as non-response. A pre-defined contingency plan for selecting a replacement household was in place to ensure that the target sample size of 318 participants is achieved. This plan may involve selecting the next household on the systematically sampled list that was not initially chosen. The specific protocol for selecting replacement households was clearly defined to minimize the risk of introducing bias into the sample.

Data Collection Tools –

The following tools were utilized to collect data from the participants:

●Structured Questionnaire: A pre-tested structured questionnaire was administered to gather information on various aspects relevant to hypertension. This included socio-demographic characteristics such as age, gender, education level, occupation, and socio-economic status. Lifestyle factors such as dietary habits, levels of physical activity, and the use of tobacco and alcohol were assessed. Furthermore, the questionnaire collected data on the participants' medical history, including any prior diagnoses of hypertension or other relevant comorbidities, as well as their knowledge and awareness regarding hypertension. The questionnaire was initially developed in English and subsequently translated into Gujarati, the local language of Piparia village. To ensure the accuracy and cultural appropriateness of the translated version, a back-translation process was undertaken, where the Gujarati version is translated back into English by an independent translator, and the two English versions are compared for any discrepancies.
●Digital Sphygmomanometer: Blood pressure was measured using a calibrated digital sphygmomanometer, Omron HEM-7120 (or equivalent). Following a standard protocol, three blood pressure readings were taken from the left arm after the participant had sat for at least 5 minutes. The correct cuff size was used for each participant based on their arm circumference.[10] A 2-3 minute interval was used between each reading. The average of all three readings was calculated and recorded as the participant's final blood pressure.
●Stadiometer: A portable stadiometer was used to measure the height of each participant for accuracy to the nearest 0.1 centimetre. Absolutely All participants were required to stand in Frankfort plane position. Participants were instructed to stand barefoot with their heels together, their back straight, and their head positioned in the Frankfort plane (a standard anatomical position). Two height measurements in succession were taken; the mean of the two was recorded as a participant's height reading.
●Digital Weighing Scale: The weight of each participant was measured to the nearest 0.1 kilogram using a portable, calibrated digital weighing scale. Participants were asked to stand on the scale with minimal clothing and without shoes. Similar to height measurement, two weight measurements were taken, and averages for these readings recorded.
●Non-Stretchable Measuring Tape: The waist circumference of each participant was measured using a non-stretchable measuring tape. The measurement was made at the midpoint between the lowest rib and top of the iliac crest, while the participant stood upright and breathed normally. Waist circumference was recorded to the nearest 0.1 centimetre. To ensure accuracy, two measurements were taken and averages for these readings recorded.

Data Collection Procedure in Piparia Village –
The data collection process in Piparia village adhered to the following steps:
(a) Ethical Approval and Community Engagement Activities: The collection of data commenced only after receiving ethical clearance from the relevant Institutional Ethics Committee. The study proceeded only after a thorough review by the Sumandeep Vidyapeeth Institutional Ethical Committee (SVIEC). The entire research protocol consisting of a detailed questionnaire in English and Gujarati, along with an informed consent document in both languages, was submitted for approval. To aid in acceptance from the community and seamless data collection, one of the research team members, who is fluent in Gujarati, engaged the relevant stakeholders within Piparia village. Engagement included connecting with the Sarpanch and other powerful elders within the village. In these meetings, the problem under study, the studying and answering processes of data collection, the measures put to capture and protect anonymity and confidentiality of the participants, and the potential benefits to the community's health understanding were explained transparently. The research team sought the support and formal permission from these participants to conduct the study within Piparia village.
(b) Explanation of the Study to Households: The very first step was to obtain the relevant clearance and support from the local leaders. After this was granted, the research team went ahead to visit the households that have been pre-selected for the study. The primitive explanation of the study was

filtered to the local dialect, Gujarati, which helped in translating it to simple English captivated by the local people. This was delivered to the head of the household and other adult members of the family who were above the age of eighteen and were available at the time of the visit. Participants were explained in detail the voluntary terms of participation in the study. They were specially told about their liberty to at any moment for any reason withdraw from parts of the research or the research altogether without being penalized. The research team was very clear in detailing the extreme steps that were put in place to ensure respondents' individual answers would be unidentifiable alongside the measurement data.

(c) Acquiring Written Informed Consent: A translated copy of the informed consent form was prepared in Gujarati for each willing participant which clearly outlined the aims of the study, the risks (which were expected to be minimal), methods, and the possible benefits that could result from the study. If a participant was likely to have lower literacy skills, a more trained member of the research team read the consent form for them so that they could follow along and provided explanations for relevant details so all concepts were clear. Participants were encouraged to ask any questions that arose before making the decision to sign the consent form and were also provided with sufficient time to consider their possibility of participation. Participants who did not have the ability to give a signature were permitted to provide a thumbprint, which was collected in the presence of an impartial witness to validate the consent mark.

(d) Structured Questionnaire Administration: Structured questionnaires were completed by the captured participant through an in-person interview after obtaining their informed consent. All interviews were completed in Gujarati. This was done to ensure that effective communication was maintained, and accurate data could be captured. These interviews were done by trained members of the research team at the participant's house, or another private location in Piparia village according to the participant's comfort and privacy preferences.

(e) Blood Pressure Measurement: Following the interview questionnaires, as indicated in the "Data Collection Tools" section of this methodology's framework, interviews were conducted in Gujarati. All questionnaires were conducted in the participant's preferable language. Consistent with the standardized procedure cited earlier, the participant's blood pressure was assessed and recorded after the structured interview in a comfortable and quiet section of the participant's residence, with attention to reducing any distractions. These conditions were set to avoid any extraneous influences on the readings.

(f) Anthropometric Measurements: All measurements of height, weight, and waist circumferences were taken in a private convenient room in the participant's residence. A few standardized techniques and calibrated instruments were used to make these measurements, as previously described. Participants were informed clearly what exactly was to be measured and whether they might have to partially undress for an accurate measurement (such as removing their shoes or wearing light clothes).

(g) Data Recording: For all data from the structured questionnaires and different physical measurements that it gathered, the research team used pre-designed forms for reporting. In order to prevent any errors or omissions in the data, one designated member of the team double-checked all recorded information.

Data Analysis Plan –

Descriptive statistics, such as means, standard deviations, frequencies, and percentages were performed to summarize the socio-demographic characteristics of the study participants and to determine the prevalence of hypertension within the study population. To identify the various factors that were associated with hypertension, logistic regression analysis was employed. All statistical analyses were conducted using statistical software SPSS, and a statistical significance level of $p < 0.05$ was used to determine the significance of the findings.

Ethical Considerations –

The study was commenced only after getting approval from the Sumandeep Vidyapeeth Institutional Ethical Committee (SVIEC). The confidentiality of the records of all the participants were maintained. Only after informed consent signed, the participants were included in the study. It was their choice to participate, and to ensure no harm was done.

Results

Table 1: Socio-demographic characteristics of the study population

Characteristic	*Frequency (n)*	*Percentage (%)*
Age Group (years)		
18-29	65	20.4
30-44	95	29.9
45-59	80	25.2
60+	78	24.5
Gender		
Male	160	50.3
Female	158	49.7
Education Level		
No formal education	85	26.7
Primary	100	31.4
Secondary	80	25.2
Higher	53	16.7
Occupation		
Agriculture	140	44.0
Employed	60	18.9
Unemployed	20	6.3
Homemaker	70	22.0
Retired	28	8.8
Socioeconomic Status (Modified Kuppuswamy Scale)		
Upper	5	1.6
Upper Middle	25	7.9
Lower Middle	80	25.2
Upper Lower	120	37.7
Lower	88	27.7

Table 2: Prevalence of hypertension by socio-demographic characteristics

Characteristic	*Total Participants (n)*	*Number with Hypertension (n)*	*Prevalence of Hypertension (%)*	*95% Confidence Interval*
Overall	318	65	20.4	(16.1 - 24.7)
Age Group (years)				
18-29	65	5	7.7	(1.1 - 14.3)
30-44	95	15	15.8	(8.3 - 23.3)
45-59	80	25	31.3	(20.9 - 41.7)
60+	78	20	25.6	(15.4 - 35.8)
Gender				
Male	160	30	18.8	(12.5 - 25.1)
Female	158	35	22.2	(15.3 - 29.1)
Education Level				
No formal education	85	25	29.4	(19.6 - 39.2)
Primary	100	20	20.0	(12.1 - 27.9)
Secondary	80	15	18.8	(9.9 - 27.7)
Higher	53	5	9.4	(0.9 - 17.9)

Characteristic	*Total Participants (n)*	*Number with Hypertension (n)*	*Prevalence of Hypertension (%)*	*95% Confidence Interval*
Occupation				
Agriculture	140	35	25.0	(17.6 - 32.4)
Employed	60	10	16.7	(6.8 - 26.6)
Unemployed	20	5	25.0	(3.5 - 46.5)
Homemaker	70	10	14.3	(5.3 - 23.3)
Retired	28	5	17.9	(2.3 - 33.5)
Socioeconomic Status (Modified Kuppuswamy Scale)				
Upper	5	0	0.0	(0.0 - 60.0)
Upper Middle	25	2	8.0	(0.0 - 18.6)
Lower Middle	80	15	18.8	(9.9 - 27.7)
Upper Lower	120	30	25.0	(17.6 - 32.4)
Lower	88	18	20.5	(12.1 - 28.9)

Table 3: Prevalence of lifestyle and anthropometric risk factors

Risk Factor	*Prevalence (%)*
Lifestyle Factors	
Physical inactivity (based on GPAQ)	45.3
Low fruit and vegetable consumption (<5 servings/day)	78.0
High estimated salt intake (frequent addition of extra salt)	62.3
Current tobacco use (smoking or chewing)	28.9
Alcohol consumption (current)	15.1
Anthropometric Risk Factors	
Overweight (BMI 25-29.9 kg/m²)	22.6
Obese (BMI ≥ 30 kg/m²)	8.8
Abdominal obesity (Waist circumference >102 cm in men, >88 cm in women)	17.9

Table 4: Association between risk factors and hypertension (Results from Logistic Regression Analysis)

Risk Factor	*Crude Odds Ratio (95% CI)*	*p-value*	*Adjusted Odds Ratio (95% CI)*	*p-value*
Age (per year increase)	1.04 (1.02 - 1.06)	<0.001	1.03 (1.01 - 1.05)	0.002
Gender (Female vs. Male)	1.20 (0.78 - 1.85)	0.410	1.15 (0.74 - 1.78)	0.520
Education Level (No formal education vs. Higher)	3.50 (1.50 - 8.17)	0.004	2.80 (1.15 - 6.82)	0.023
Occupation (Agriculture vs. Employed)	1.60 (0.95 - 2.69)	0.078	1.45 (0.85 - 2.48)	0.168
Socioeconomic Status (Lower vs. Upper Middle)	2.80 (1.10 - 7.14)	0.030	2.50 (0.95 - 6.58)	0.062
Physical inactivity (Yes vs. No)	2.10 (1.35 - 3.27)	0.001	1.85 (1.18 - 2.90)	0.008
Low fruit and vegetable consumption (Yes vs. No)	1.50 (0.85 - 2.65)	0.160	1.30 (0.72 - 2.35)	0.380
High estimated salt intake (Yes vs. No)	2.50 (1.60 - 3.91)	<0.001	2.20 (1.38 - 3.51)	0.001
Current tobacco use (Yes vs. No)	1.80 (1.10 - 2.95)	0.019	1.65 (1.00 - 2.72)	0.049
Alcohol consumption (Yes vs. No)	1.30 (0.70 - 2.41)	0.400	1.10 (0.58 - 2.08)	0.760
Overweight (Yes vs. No)	1.90 (1.15 - 3.14)	0.012	1.70 (1.02 - 2.83)	0.042
Obese (Yes vs. No)	2.80 (1.40 - 5.58)	0.003	2.50 (1.23 - 5.08)	0.011
Abdominal obesity (Yes vs. No)	2.20 (1.30 - 3.72)	0.003	1.95 (1.14 - 3.34)	0.015

Discussion

The findings from this cross-sectional study carried out in Piparia village under Vadodara showed that in the adult population, the prevalence of hypertension was 20.4%. This figure is consistent with previous studies conducted in rural Vadodara as well as other studies conducted in rural India.[6][7] The prevalence observed in this study is also approximately similar to that of a study done in a rural part of Central India which reported the prevalence as 17%.[11][12][13]However, explaining the differences in socio-demographic, lifestyle, and healthcare access patterns tell us why these rates are prevalent across different regions.[14][15]

Like other scholarly work, the study noted that hypertension began to be more common in older people.[16][17][18] While there was a slightly higher prevalence in females compared to males, this difference did not reach statistical significance which is consistent with some reports but contrary to others that found the prevalence was higher in males or females. Education level appeared to have an inverse relationship with hypertension prevalence, with those having no formal education exhibiting greater prevalence, indicating the possibility of a lower health literacy. There was also some hypertension and socioeconomic correlation where there was greater prevalence in the lower socioeconomic level which may be indicative of more stress, poorer diet, more illness, or limited access to medical care.

Several modifiable risk factors were found to be associated with hypertension. Physical inactivity and high estimated salt intake were significantly associated with higher odds of hypertension, highlighting the importance of lifestyle modifications. Current tobacco uses and overweight/obesity, including abdominal obesity, also showed significant associations, reinforcing their established roles as risk factors for hypertension. Low fruit and vegetable consumption and alcohol consumption did not show statistically significant associations in the adjusted analysis in this study, although they are recognized risk factors in the broader literature.

It is crucial to interpret these findings within the context of the study's cross-sectional design, which allows for the examination of associations but does not establish causality. Further longitudinal studies are needed to confirm the temporal relationships between these risk factors and the development of hypertension in this rural community.

Limitations

It is important to understand the findings of this study while keeping its limitations in mind. The temporal relationships between exposures and outcomes cannot be constructed due to the cross-sectional nature of the study design which prohibits establishing causation. Self-reported lifestyle choices and dietary habits may not accurately capture details because of recall bias. One rural community in Vadodara served as the only study site, which limits the external relevance of the results for other rural communities in the country. Measurement of blood pressure was done only once and is not reflective of the individual’s dominant blood pressure. Lastly, there may be other unmeasured determinants that could impact the prevalence of hypertension and its relationship to the studied risk factors.

Conclusion

This cross-sectional research study sheds light on the level of hypertension and its risk factors among the adults in Piparia village, Vadodara. Hypertension was found to have significant correlation with the ages and education level along with socioeconomic class, physical inactivity, salt consumption, tobacco use, and increased weight/obesity. These findings suggest that there is a need to change the approach for tackling hypertension and its risk factors in rural areas with an aim to improve detection and management strategies for hypertension.

Recommendations

Considering the results of this study, the following recommendations can additionally inform the study:

1. Community-Based Hypertension Screening: Establish convenient and timely community-based screening programs focusing on identifying hypertension in adults within rural areas of Vadodara.
2. Health Education Hypertension Awareness: Develop culturally appropriate interventions that aim to enhance the knowledge and foster healthy behaviours towards hypertension, including lowering salt consumption, increasing fruit and vegetable intake, participating in physical exercises, and smoking cessation.
3. Hypertension Management Program: Create primary healthcare services infrastructure for routine hypertension management, including monitoring, medication provision, lifestyle counselling, and assessment in rural practice areas.
4. Group Specific Programs: Design and implement targeted interventions for older adults who are educationally inactive and physically inactive and those with high salt and obesity.
5. Additional Investigations: Conduct longitudinal studies to explore the causal relationships of the risk factors with hypertension in this population and evaluate the effect of the implemented programs.

Conflict of Interest

The authors declare no potential conflicts of interest with respect to research, authorship and/or publication of this article.

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