

# Non-Pharmacologic Approaches in Managing Hypertension among the Elderly of Barangay Bagong Silang

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## Abstract:-

### ➤ *Background and Aim*

This study aims to examine the use and effectiveness of non-pharmacologic approaches to manage hypertension by focusing on lifestyle modifications including dietary modifications, physical activity, and alternative therapies used by people with hypertension. The justification for this study is based on the increasing awareness and understanding that while medications are important in controlling blood pressure, non-drug treatments can help to improve treatment outcomes. However, there is limited knowledge about the existence and use of these non-pharmacologic approaches that this study seeks to generate by examining their prevalence in influencing hypertension management.

### ➤ *Methods*

The study used a quantitative, descriptive approach, collecting data via questionnaires from adults with hypertension. The questionnaires assessed the frequency and types of non-pharmacologic treatments used. Descriptive statistics, including means and standard deviations, were employed to analyze the data, focusing on the prevalence and patterns of these non-drug approaches in managing hypertension.

### ➤ *Results*

The study supports the merit of non-pharmacological measures in hypertension management through dietary modification, regular exercise, and stress reduction. The strategies have dual advantages in promoting general health, impacting several lifestyle factors, and, at the same time, reducing risks associated with medications. This approach teaches long-lasting healthy habits and decreases the cost of care, increasing the chance of more significant patient engagement and better adherence to outcomes. Non-pharmacological means may prevent hypertension in subjects at risk and complement drug therapy by enhancing compliance with medication and reducing the doses of drugs required. These methods are easily individualized according to individual preference and therefore more effective and sustainable.

### ➤ *Conclusion*

The study concludes that non-pharmacologic approaches to managing hypertension are underutilized, reflecting a need for greater awareness and promotion of these methods. Integrating lifestyle changes with medication could improve hypertension management, but requires more education and support from healthcare providers.

## I. INTRODUCTION

The most common disease in the world is hypertension. There are many kinds of hypertension, and it shows complications if it is not treated as early as the symptoms shows. A study shows that primary, essential, and idiopathic hypertension is defined as high blood pressure that is not associated with identifiable causes such as endovascular disease, renal failure, pheochromocytoma, and aldosteronism (Elkheshebi et al. 2021). The same study also emphasizes the need for patients to treat high blood in its initial stages as it may lead to difficult complications such as heart disease, and vascular disease, in which, even lack of attention to treatment, may lead to kidney failure.

Many factors affect hypertension. It is a challenge to reduce blood pressure solely through interventions. Diet intake plays a huge part in the healthy lifestyle of patients experiencing cardiovascular disease (Elkheshebi et al. 2021). It shows that 46.3% of patients were committed to consuming healthy foods which, according to the data gathered, decreased to 17 patients experiencing controlled blood pressure.

Thus, the preference for a healthy life and avoiding physical activity negatively affects the patient's condition. It may influence the control of the patient's blood pressure, which puts them at risk of raising it over the recommended level. The necessity of increasing awareness of non-pharmacological interventions as a Complementary method to drug therapy among patients is emphasized. It would be helpful for general practitioners to ensure patients are sticking to their non-pharmacological treatment plans and to check in with them regularly. There are differences in the evidence regarding hypertension incidences, risk factors, and treatment strategies. The effectiveness of standard treatment, also known as pharmacological treatment, for

patients with hypertension, does not include strategies like lifestyle modifications such as dietary changes, physical activity, or educational initiatives. These are the non-pharmacological treatment approaches (Cernota et al. 2022).

The management of the Philippine Heart Association agreed to launch the PRESSYON Study Series as effectively deal with the increasing problem of hypertension. The study showed that the occurrence of the disease under study is high among the clients who consulted the physicians for treatment. Hypertension was 22 percent in the 1990s while it was 37 percent in 2021. This indicates that hypertension is a serious health risk that requires effective management. Thus, the research gap appears to be the lack of emphasis and integration of non-pharmacological interventions in the standard treatment strategies for hypertension.

Hence, this study addressed the knowledge gap by exploring the prevalence and frequency of utilization of non-pharmacological treatments among individuals managing hypertension, the average blood pressure measures of these clients, the prevalence of integrated use of pharmacologic and non-pharmacologic approaches, and the dietary patterns of the patients.

## II. METHODS

### A. Research Design

This study adopted a quantitative research design that involves the use of structured surveys and researcher made questionnaire. The surveys gather numerical data related to concerning non-pharmacological approaches for hypertension management. Research aimed to statistically analyze these quantitative measures to assess the effectiveness and impacts of various non-pharmacological interventions.

The quantitative approach focuses on collecting numerical data to measure and quantify the outcomes and characteristics of non-pharmacological interventions for hypertension. By utilizing statistical analyses and numerical assessments, this study aims to provide empirical evidence and quantifiable insights into the efficacy and implications of these interventions in managing hypertension (Kodala et al. 2023e).

### B. Respondents of the Study

The study's population comprises middle-aged adults residing in Iligan City, Philippines. The participants in this research would consist of adults diagnosed with hypertension, purposely selected from the population of citizens in Iligan City.

Approximately 100 adult individuals meeting the criteria of hypertension diagnosis would be included as respondents for this study (Abalos et al. 2024.)

### C. Research Approach

The research approach for this study is grounded in a quantitative methodology where data is collected in numerical form and can be analyzed using statistical

methods (Wright 2017). The use of a quantitative research approach is driven by the need to explore the perspective of non-pharmacological management and intervention of hypertension.

### D. Research Instruments

The following are the tools that would be used to gather the specific data:

- To assess the prevalence of the use of non-pharmacologic treatment for hypertension, the researcher would use a structured instrument that will involve close-ended questionnaires and a Likert scale.
- To assess the prevalence of the integrated use of pharmacologic and non-pharmacologic approaches in managing hypertension, the researcher would use a self-made questionnaire, a structured questionnaire that would involve a Likert scale.
- To measure the blood pressure of the client, the researcher would use blood pressure equipment (sphygmomanometer & stethoscope).
- To assess the dietary pattern of the client, the researcher would use a food frequency Questionnaire (FFQ).

### E. Data Gathering Procedures

First, the research team obtained informed consent from potential participants by explaining the study's purpose, participation details, and participant rights, including the right to withdraw without penalty.

Second, after the recruitment process, the research team distributed the questionnaires to the selected participants. The questionnaires included a self-made Questionnaire and the Non-Pharmacological Treatments Assessment Tool by world health organization (WHO), the Integrated Use of Pharmacologic, and the Dietary Pattern by WHO.

Thirdly, the participants were given ample time to complete the questionnaires. The research team ensured that the participants understood the questions and provided assistance if needed.

Fourthly, once the questionnaires were completed, the research team collected them from the participants. The team ensured that all questionnaires were filled out completely and accurately.

Lastly, the collected data were prepared for analysis. This involved checking the questionnaires for completeness, coding the responses, and entering the data into a statistical software program for analysis.

### F. Ethical Considerations

The researcher would adhere to ethical considerations by obtaining informed consent from the leader of the selected barangay, formally requesting their cooperation for the implementation of a study within their community. The approach aimed to enlist the support of community leaders in persuading residents to participate voluntarily.

The researcher would assure the community that participation is entirely voluntary, emphasizing that no coercive measures would be employed maintaining the confidentiality of information obtained would be upheld throughout the study (WHO 2023).

#### G. Data Analysis

This study was going to use descriptive statistics: Calculate means, medians, and standard deviations and average of blood pressure levels the raw data was collected from the respondents and processed into numerical data using statistical data analysis methods.

#### H. Statistical Tools

Data were graphed and analyzed using quantitative research software analysis.

Statistical Package for Social Sciences (SPSS) and Microsoft Excel were used for software in the analysis of the data that are descriptive mainly the tabular presentation with mean and standard deviation and also used for deeper inferential analysis such as Spearman's Rank Correlation and Chi-Square Test Correlation to test the significant of Non Pharmacologic approaches in Managing Hypertension among the Elderly of Barangay Bagong Silang

### III. RESULTS

This chapter presents the results, analysis, and interpretation of data gathered from the answers to the questionnaires distributed among adults with a hypertension diagnosis. The respondents in the study were residents living in Bagong Silang Iligan City, Philippines. The study has a total of 100 respondents. These individuals were chosen based on criteria relevant to the study. This selection process ensured that respondents' experiences and perspectives would be particularly pertinent to the study's focus.

#### A. Prevalence of Utilization of the Listed Non-Pharmacological Treatments Among Individuals Managing Hypertension

Table 1 illustrates the level of prevalence of utilization of various non-pharmacological treatments among individuals managing hypertension. The overall mean for all indicators was 2.34 with a standard deviation of 1.04, indicating that these treatments were rarely utilized. This suggested that most people with hypertension do not often use non-drug treatments. The low overall mean showed that non-pharmacological treatments might not have been well-known or trusted among patients. It might also have meant that doctors and healthcare workers were not recommending these treatments enough.

Table 1 Level of Prevalence of Utilization of the Listed Non-Pharmacological Treatments among Individuals Managing Hypertension

Indicators	Mean	SD	Interpretation
Dietary Changes (Reducing Salt Intake, DASH Diet, Potassium Increase)	3.45	1.03	Always
Regular And Physical Activity (walking, hiking, jogging, etc.)	3.48	0.97	Always
Ginger Tea	2.61	1.10	Sometimes
Avoiding Alcohol	2.91	1.30	Sometimes
Avoiding Smoking	2.92	1.35	Sometimes
Stress Management (taking a nap, deep breathing exercises, meditation, creative outlets, etc.)	3.04	1.25	Sometimes
Regular Health Monitoring	2.91	1.26	Sometimes
Malunggay Tea	2.03	0.99	Rarely
Garlic (Bawang)	2.25	1.19	Rarely
Celery Seed	1.31	0.65	Never
Omega-3 Fatty Acids	1.50	0.98	Never
Hibiscus Tea (Gumamela)	1.21	0.54	Never
Olive Leaf Extract	1.44	0.80	Never
Fish Oil	1.69	1.08	Never
Overall	2.34	1.04	Rarely
Legend: 3.26 – 4.00 (Always); 2.51 – 3.25 (Sometimes); 1.76 – 2.50 (Rarely); 1.00 – 1.75 (Never)			

### B. Average Blood Pressure

In Table 2, the distribution of respondents' average blood pressure levels was presented, providing insightful data on the cardiovascular health of the population studied. Overall, the data showed a wide range of blood pressure readings among the respondents, with a significant portion falling within what was considered the normal range. Specifically, the most common blood pressure level recorded was 120/80, observed in 37 respondents, accounting for 37% of the total sample. This indicated a predominant tendency towards a healthy cardiovascular state within the group.

However, the data also highlighted the presence of hypertension stages among the respondents. Notably, 6% of the sample recorded a blood pressure of 120/100, and 3% had readings of 130/100, indicating Stage 1 hypertension.

Furthermore, isolated instances of more severe hypertension, such as 150/90 and 190/90, though less common (each at 1%), were of particular concern and suggested the need for targeted interventions to address high blood pressure within this subgroup.

Table 2 Distribution of the Respondents on Average Blood Pressure Level

Average Blood Pressure	F (%)
100/70	1 (1.0)
110/70	5 (5.0)
120/70	4 (4.0)
120/75	1 (1.0)
110/80	6 (6.0)
110/90	1 (1.0)
110/100	2 (2.0)
120/80	37 (37.0)
120/90	8 (8.0)
120/100	6 (6.0)
130/100	3 (3.0)
130/90	5 (5.0)
130/80	11 (11.0)
130/70	2 (2.0)
130/60	3 (3.0)
140/80	3 (3.0)
150/90	1 (1.0)
190/90	1 (1.0)
Total	100

### C. Prevalence of the Integrated Use of Pharmacologic and Non-Pharmacologic Approaches in Managing Hypertension

Table 3 presented the level of prevalence of the integrated use of pharmacologic and non-pharmacologic approaches in managing hypertension among respondents. The overall mean level of prevalence for these combined approaches was 3.20 (SD = 2.29), indicating that, on average, these practices were rarely utilized by patients. This low average usage suggested that many patients might have been unaware of the benefits of combining different treatments for hypertension. It also highlighted a potential area for healthcare providers to educate patients about how using both medication and lifestyle changes could effectively manage their condition.

This low average usage suggested that many patients might have been unaware of the benefits of combining different treatments for hypertension. It also highlighted a potential area for healthcare providers to educate patients about how using both medication and lifestyle changes could effectively manage their condition. By understanding and addressing the reasons behind the rare utilization of combined approaches, healthcare systems could improve hypertension management and patient outcomes.

In the category where the integrated use of pharmacologic and non-pharmacologic methods was "sometimes practiced", the mean scores ranged from 3.51 to 4.23, with standard deviations between 2.34 and 2.48. Notable combinations this group included Losartan with dietary changes (M = 4.23, SD = 2.34) and Losartan with regular physical activity (M = 4.04, SD = 2.35). These combinations suggested that patients were somewhat more likely to incorporate lifestyle modifications such as diet and exercise when managing hypertension alongside medication.

Conversely, some integrated approaches were “infrequently practiced”, with mean scores ranging from 1.97 to 2.15 and standard deviations between 1.74 and 1.89. Examples included Losartan with olive leaf extract (M = 1.97, SD = 1.74) and losartan with fish oil (M = 2.15, SD = 1.89). These findings indicated a lower prevalence of using certain alternative or supplementary therapies with conventional pharmacologic treatments. This low prevalence might have been due to a lack of awareness or skepticism about the effectiveness of these alternative therapies among patients and healthcare providers.

Table 3 Level of Prevalence of the Integrated Use of Pharmacologic and Non- Pharmacologic Approaches in Managing Hypertension

Indicators	Mean	SD	Interpretation
Amlodipine+ Regular Physical Activity	3.51	2.48	Sometimes
Losartan + Dietary Changes	4.23	2.34	Sometimes
Losartan + Regular Physical Activity	4.04	2.35	Sometimes
Losartan + Avoiding Alcohol	3.58	2.44	Sometimes
Losartan + Avoiding Smoking	3.74	2.42	Sometimes
Losartan + Stress Management	3.88	2.41	Sometimes
Losartan + Regular Health Monitoring	3.82	2.36	Sometimes
Losartan + Tea	3.12	2.32	Rarely
Losartan + Garlic (Bawang)	3.13	2.21	Rarely
Amlodipine + Tea	3.16	2.39	Rarely
Amlodipine + Dietary Changes	3.12	2.46	Rarely
Amlodipine + Avoiding Alcohol	2.92	2.34	Rarely
Amlodipine + Avoiding Smoking	2.94	2.39	Rarely
Amlodipine + Stress Management	3.03	2.42	Rarely
Amlodipine + Regular Health Monitoring	3.15	2.40	Rarely
Losartan + MX3	2.10	1.86	Infrequently
Losartan + Olive Leaf Extract	1.97	1.74	Infrequently
Losartan + Fish Oil	2.15	1.89	Infrequently
Overall	3.20	2.29	Rarely
Legend: 5.17 – 6.00 (Frequently); 4.33 – 5.16 (Occasionally); 3.49 – 4.32 (Sometimes); 2.67 – 3.50 (Rarely); 1.83 – 2.66(Infrequently); 1.00 1.82 (Never)			

➤ *Dietary Pattern of the Patient (Consume the Following Foods in Their Diet)*

Table 4 provides an overview of respondents' consumption habits across various food categories. Red meat, including beef, pork, and lamb, was predominantly consumed weekly by 44% of respondents, indicating its significance as a staple protein source influenced by availability and cultural preferences. Poultry, such as chicken and turkey, saw daily consumption by 10% of respondents, suggesting a preference for leaner protein options and potential health benefits. Fish and seafood were consumed daily by 51% of respondents, pointing towards a strong cultural or dietary inclination towards these sources' rich in omega-3 fatty acids and lean protein. Eggs and dairy products were consumed daily by 47% of respondents, highlighting their importance for nutritional needs due to affordability, versatility, and nutritional value.

Conversely, fruits were consumed daily by 67% of respondents, emphasizing their role in meeting daily nutritional requirements and promoting overall health. Vegetables were consumed daily by 73% of respondents, indicating a strong emphasis on vegetable intake for essential nutrients and fiber. Legumes, such as beans and lentils, were consumed daily by 38% of



respondents, showcasing their significance in providing daily protein and fiber intake in plant-based diets. Grains and cereals, including rice, bread, and pasta, were consumed daily by 51% of respondents, serving as dietary staples rich in carbohydrates and fiber. Snack foods, like chips and candies, were consumed weekly by 30% of respondents.

Table 4 Distribution of the Respondents on How Often Do They Consume the Following Foods in Their Diet

Indicators		Daily	Weekly	Monthly	Yearly	Never	Total
Red meat (beef, pork, lamb)	(f)	4	44	49	3	0	100
	(%)	4.0%	44.0%	49.0%	3.0%	-	100.0%
Poultry (chicken, turkey)	(f)	10	65	25	0	0	100
	(%)	10.0 %	65.0%	25.0%	-	-	100.0%
Fish and Seafood	(f)	51	34	11	4	0	100
	(%)	51.0 %	34.0%	11.0%	4.0%	-	100.0%
Eggs Dairy products (milk cheese,yogurt)	(f)	47	21	18	13	1	100
	(%)	47.0 %	21.0%	18.0%	13.0%	1.0%	100.0%
Fruits(specify types, e.g., apples, oranges, bananas)	(f)	67	27	5	1	0	100
	(%)	67.0 %	27.0%	5.0%	1.0%	-	100.0%
Vegetables specify types, e.g., carrots, broccoli, spinach)	(f)	73	18	6	2	1	100
	(%)	73.0 %	18.0%	6.0%	2.0%	1.0%	100.0%
Legumes (beans, lentils)	(f)	38	20	24	15	3	100
	(%)	38.0 %	20.0%	24.0%	15.0%	3.0%	100.0%
Grains and cereals (rice, bread, pasta)	(f)	51	19	7	16	7	100
	(%)	51.0 %	19.0%	7.0%	16.0%	7.0%	100.0%
Snack foods (chips, cookies candies)	(f)	22	30	15	19	14	100
	(%)	22.0 %	30.0%	15.0%	19.0%	14.0%	100.0%

➤ *Dietary Pattern of the Patient (Often that Drink the Following Beverages)*

Table 5 provided an overview of respondents' beverage consumption habits, revealing distinct trends in consumption frequencies. Water stood out 96% reporting daily intake, showcasing a widespread commitment to hydration for overall health. Alcoholic drinks were consumed yearly by 38%, indicating a more occasional indulgence, possibly reflecting a balanced approach to alcohol consumption and awareness of associated health risks.

However, fruit juices were a weekly staple for 63% of respondents, suggesting a preference for vitamin-rich options. Soft drinks or sodas were consumed weekly by Coffee emerged as a daily ritual.

Table 5 Frequency and Distribution of the Respondents on How Often Do They Drink the following beverages

Indicators	Daily	Weekly	Monthly	Yearly	Never	Total	
Water	(f)	96	4	0	0	0	100
	(%)	96.0%	4.0%	-	-	-	100.0%
Alcoholic Drinks	(f)	3	9	31	38	19	100
Fruit juices	(%)	3.0%	9.0%	31.0%	38.0%	19.0%	100.0%
	(f)	10	63	15	10	2	100
Soft drinks or sodas (regular or diet)	(%)	10.0%	63.0%	15.0%	10.0%	2.0%	100.0%
	(f)	7	42	21	25	5	100
Coffee	(%)	7.0%	42.0%	21.0%	25.0%	5.0%	100.0%
	(f)	21	43	11	19	6	100
	(%)	21.0%	43.0%	11.0%	19.0%	6.0%	100.0%
Indicators	Daily	Weekly	Monthly	Yearly	Never	Total	
Water	(f)	96	4	0	0	0	100
	(%)	96.0%	4.0%	-	-	-	100.0%

#### IV. DISCUSSION

The study found that the non-pharmacological treatment of hypertension was seldom used by participants, suggesting a lack of knowledge or confidence in such treatments. Low rates of use may also imply that patients are not aware of the potential value and benefits of non-drug treatments in general, or that healthcare providers do not regularly share this information or routinely recommend such treatment options to their patients. Increased exposure and education about non-drug strategies for managing hypertension would likely support consumer decision-making about how to best manage their health and chronic conditions, as well as improve overall patient outcomes when used adjunctively with drug therapies.

In addition, we found that the use of pharmacologic and non-pharmacologic treatment in combination was also low. This suggested that patients were largely unaware of the potential benefits associated with the integration of these approaches, and as a result, there has been very limited adoption of a truly holistic approach by patients. The importance of educating patients about the efficacy and effectiveness associated with combining medication use with recommended lifestyle modification is highlighted by these findings and may be an important contributor to not only hypertension control but overall health in this population.

#### V. IMPLICATION OF THE STUDY

This study revealed a low overall utilization of non-pharmacological treatments among individuals managing hypertension. This suggested that non-drug treatments were not commonly used, possibly due to a lack of awareness or trust among patients, or insufficient recommendations from healthcare providers.

There is a need for increased efforts to raise awareness and educate patients on the benefits of non-pharmacological treatments for managing hypertension.

Healthcare providers should have emphasized the potential advantages of these treatments and offered guidance on incorporating them into daily routines, which could have led to improved patient outcomes and a more holistic approach to hypertension management. Dietary changes and regular physical activity were the most frequently utilized non-pharmacological treatments, with high mean scores indicating that these strategies were consistently adopted by individuals with hypertension.

This finding the effectiveness of lifestyle modifications in managing hypertension and the willingness of patients to make dietary adjustments and engage in regular exercise. Healthcare providers should have continued to promote these healthy lifestyle practices, providing support and resources to help patients maintain these habits. The success of dietary and physical activity interventions underscored the importance of encouraging healthy behaviors as part of a comprehensive hypertension management plan. Conversely, the study found very low utilization rates for treatments such as celery seed, omega-3 fatty acids, hibiscus tea, olive leaf extract, and fish oil. The finding highlighted the need for increased education and information dissemination about the potential benefits of these alternative treatments.

Healthcare providers should have considered incorporating discussions about these treatments into their consultations, addressing misconceptions, and making these options more accessible to patients. By doing so, they could have offered more comprehensive treatment plans that catered to individual patient preferences and needs. The study also examined the integrated use of pharmacologic and non-pharmacologic approaches, finding that these combined strategies were rarely utilized by patients. Notable combinations, such as Losartan with dietary changes and

Losartan with regular physical activity, showed higher usage rates, indicating that patients might have been more receptive to lifestyle modifications when recommended alongside medication. Encouraging patients to adopt these integrated Approaches could have led to better hypertension management and potentially reduced reliance on medication alone, ultimately improving patient outcomes and quality of life.

In previous years, the key considerations of the non-pharmacologic therapies for hypertension were confined and empowered mainly on eating habits, exercises, and the stress of lifestyle without being complemented adequately by pharmacological interferences. However more recent research has affirmed that other than using the DASH diet to reduce high blood pressure, it does so in ways that have not been seen before. Prevention and control of hypertension; sparking and aerobic movements, dynamic and static forms of exercise such as endurance and strength.

Long-term stress also suppresses the sympathetic nervous system, and some of the measures that can help with stress include practicing mindfulness meditation or doing yoga. From these observations, it therefore becomes clear and understood that more emphasis is required for the incorporation of other non-pharmacological approaches in the handling of hypertension to improve the results.

## VI. LIMITATIONS AND RECOMMENDATIONS

One of the primary limitations of this study was the reliance on self-reported data from respondents, which may have introduced bias or inaccuracies in the reported usage of non-pharmacological treatments and their perceived effectiveness. Furthermore, the study's sample size of 100 individuals, although purposively selected, may not have been sufficiently large or diverse to generalize the findings to the broader population of adults with hypertension.

The exclusion of pharmacological treatments limited the scope of understanding the integrated management of hypertension, which often includes both pharmacological and non-pharmacological approaches. Another significant limitation was the geographic focus of the study, which may have limited the generalizability of the findings to other regions with different healthcare practices, cultural attitudes, and dietary habits.

Future research should have considered a more integrative approach that included both pharmacological and non-pharmacological treatments to provide a holistic understanding of hypertension management. This could have uncovered potential synergies and provided a more comprehensive treatment guideline for patients. Additionally, employing a longitudinal study design could have helped in assessing the long-term efficacy and compliance of non-pharmacological treatments. Expanding the geographic scope and including diverse demographic groups would have enhanced the generalizability of the findings.

It was also recommended that future studies use objective measures, such as clinical evaluations and biomarker assessments, alongside self-reported data to improve the reliability and validity of the results. Lastly, increasing awareness and education on lesser-known non-pharmacological treatments through healthcare provider training and patient education programs could have been a vital area for intervention and study.

Therefore, when looking for other forms of hypertension non-pharmacological treatment, the following limitations emerge from the research. Some limitations include the variations in the numbers of subjects in the studies, and the subjects' backgrounds, intervention duration, and measuring instruments. All these have a bearing on the challenges regarding the generalization of the findings across the two kinds of research studies in a manner that is commensurate. Moreover, some papers are purely questionnaire-based, this makes the information received, to a certain extent, reflect the subjective estimate or recalling of the participants.

One more significant limitation of the current literature is that many of the studies with non-pharmacologic interventions are conducted for a short period, which prevents the researchers from understanding the long-term effectiveness of the interventions. Moreover, regarding the analyzed sample of non-pharmacological interventions ranging from dietary modification to exercise and stress reduction approaches and complementary therapies, the study is beneficial because sometimes it remains unclear which of the approaches may lead to exclusively positive effects. Also, there are deficiencies in knowledge concerning some demographic variables, which might predict the applicability and efficacy of these interventions.

Therefore, there is needed culturally competent and systems-oriented research. Such limitations will be countered through increased reliance on standard procedures and extended monitoring; the advancement of the understanding of non-pharmacological approaches to hypertension will be the outcome.

## VII. STRENGTH OF THE STUDY

This study explored the strengths of studying non-pharmacological approaches to hypertension. Holistic management through strategies such as dietary changes, exercise, and stress reduction addressed multiple lifestyle factors influencing hypertension, leading to comprehensive health improvements. By focusing on lifestyle modifications rather than medications, patients experienced fewer adverse effects, avoiding complications like dizziness or fatigue. Lifestyle changes promoted lasting habits, helping maintain healthy blood pressure levels over time and contributing to long-term cardiovascular health.

Non-pharmacological interventions often involve low-cost or no-cost options, significantly reducing healthcare costs related to medications and their associated monitoring. Engaging patients in their health management fostered a



sense of ownership and responsibility, leading to greater adherence to recommended lifestyle changes and improved health outcomes. Implementing non-pharmacological strategies could prevent the development of hypertension in individuals with prehypertension or those at risk, reducing the overall incidence of cardiovascular diseases.

These strategies enhanced the effectiveness of pharmacological treatments by improving medication adherence and Lifestyle modifications often lead to additional health benefits, such as weight loss, improved mood, and enhanced physical fitness, contributing to an overall improved quality of life. Non- pharmacological approaches could be tailored to fit reducing required dosages, leading to better control of blood pressure, individual preferences, cultural backgrounds, and personal health goals, increasing the likelihood of successful implementation. Studying these approaches provided valuable insights into behavioral psychology, helping to understand how patients could be motivated to make and sustain lifestyle changes

### VIII. CONCLUSION

The study aimed to explore the utilization of various non-pharmacological treatments among individuals managing hypertension. The findings revealed that these treatments were rarely utilized, suggesting a lack of awareness or trust in nondrug options among patients. The prevalence of normal blood pressure readings among respondents suggested that a significant portion of the population maintained good cardiovascular health, likely due to effective healthcare interventions and healthy lifestyle choices. However, the rare use of non-pharmacological treatments and the combined approach to managing hypertension indicate areas needing improvement.

Non-pharmacological treatments, although beneficial, should not be relied upon as the sole method of control. Instead, these treatments should serve to complement and enhance the efficacy of prescribed pharmacologic therapies.

Healthcare providers must stress the importance of adhering to prescribed medications while simultaneously encouraging the adoption of a healthy lifestyle, including appropriate non-pharmacological interventions.

The findings apply to the real world by emphasizing the importance of continuous health education and proactive healthcare practices. For the population studied, these results highlight the need for increased awareness of both non-pharmacological treatments and integrated approaches to managing hypertension. Healthcare providers can use this information to better educate patients on the benefits of various treatment options, improving cardiovascular health.

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