AUTOSUGGESTION-BASED HEALTH INNOVATION RAVS MODEL FOR CONTROLLED BLOOD PRESSURE IN PEOPLE WITH HYPERTENSION

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Abstract

Hypertension is a significant health problem with increasing prevalence globally, nationally, and locally. Adequate blood pressure control is essential to prevent complications. This study develops and evaluates health service innovations based on autosuggestion techniques, using the RAVS Model (Deep Breath Relaxation, Affirmation, Visualisation, and Spirituality) as a holistic approach to blood pressure control in hypertensive patients. A mixed research method, combining bibliometric analysis to map research trends and meta-analysis to assess the effectiveness of RAVS Model interventions from primary studies. The results show that the development of the RAVS model autosuggestion is increasing worldwide, especially in developed countries, and is effective in lowering blood pressure and improving medication adherence. This non-pharmacy innovation offers innovative, accessible, low-cost, and sustainable healthcare solutions. This research makes an essential contribution to developing health services that integrate biological, psychological, social, and spiritual aspects in the management of hypertension.

Keywords: *Hypertension; autosuggestion techniques; RAVS model; blood pressure control; health service innovation*

INOVASI KESEHATAN BERBASIS AUTOSUGESTI MODEL RAVS UNTUK TEKANAN DARAH TERKENDALI PADA PENDERITA HIPERTENSI

Abstrak

Hipertensi adalah masalah kesehatan masyarakat yang signifikan di seluruh dunia, dengan prevalensi yang meningkat. Kontrol tekanan darah yang tepat mencegah komplikasi. Penelitian ini bertujuan untuk mengembangkan dan mengevaluasi inovasi pelayanan kesehatan menggunakan autosugesti dengan RAVS Model (Deep Breath Relaxation, Affirmation, Visualisation, and Spirituality) sebagai pendekatan holistik untuk mengendalikan tekanan darah pada pasien hipertensi berbasis komunitas. Ini menggunakan pendekatan metode campuran, termasuk analisis bibliometrik untuk mengidentifikasi tren penelitian dan meta-analisis untuk menilai efektivitas Model RAVS berdasarkan studi primer. Hasil menunjukkan bahwa autosugesti Model RAVS telah meningkat di negara berkembang, secara efektif menurunkan tekanan darah dan meningkatkan kepatuhan pengobatan. Inovasi non-farmasi ini memberikan solusi kesehatan yang dapat diakses, hemat biaya, dan berkelanjutan. Penelitian ini mengintegrasikan faktor biologis, psikologis, sosial, dan spiritual dalam pengelolaan hipertensi.

Kata kunci: *Hipertensi; teknik autosugesti; model RAVS; kontrol tekanan darah; Inovasi layanan Kesehatan.*

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1. Introduction.

Hypertension is a non-communicable disease that is the leading cause of global death, resulting in more than 10 million deaths per year due to complications such as stroke, heart disease, and kidney failure (WHO, 2023). Despite the WHO's target of reducing the prevalence of hypertension by 25% by 2025 and the SDGs, its prevalence is increasing, especially in low- and middle-income countries [1]. In Southeast Asia, NCDs account for 69% of deaths, with hypertension as the primary contributor [2]. In Indonesia, Riskesdas 2018 reported a prevalence of hypertension of 34.1% at the age of ≥18 years. The latest data from Banten show a prevalence of 26.8% in 2025, with a controlled blood pressure of around 35%. Pandeglang Regency has the highest prevalence (33.53%), followed by Lebak (32.02%), Cilegon (30.46%), Tangerang (30.10%), and Tangerang City (28.74%). Serang Regency has the lowest 25.77% [3].

Inequality between rural and urban areas exacerbates the situation, where access to services and treatment adherence is lower in rural areas. Various interventions, such as health education, posbindu, prolanis, and standard treatment, have been implemented. Still, they remain medical and do not address the psychological, social, and spiritual aspects that play an essential role in blood pressure control [4]. Psychosocial factors such as stress, motivation, and social support strongly influence the success of hypertension management, but holistic interventions are still minimal. The RAVS model, which integrates Deep Breath Relaxation, Affirmation, Visualization, and Spirituality, has the potential to be an innovative, low-cost, accessible, and self-reliant approach for patients. This study develops and evaluates the effectiveness of the RAVS Model in reducing blood pressure and improving treatment adherence among people with hypertension in the community, particularly in Banten Province.

2. Literature Review

2.1. Hypertension

Hypertension is a chronic condition with a systolic blood pressure of ≥140 mmHg and/or a diastolic blood pressure of≥90 mmHg. As a significant risk factor for cardiovascular disease, hypertension causes about nine million deaths each year and is often asymptomatic, called *a silent killer*, so it usually goes undiagnosed [5], [6]. Effective management is essential to prevent complications such as stroke, heart failure, and kidney disease. Blood pressure control can reduce the risk of stroke by up to 40% [7]. The strategy includes lifestyle changes and medication adherence

2.2. Control Challenges

Hypertension control in rural areas is difficult due to low awareness, stigma, and limited access. Stigma inhibits the search for treatment, increasing the risk of complications[4]. A holistic approach and ongoing education are essential to improve public understanding and compliance

2.3. Autosuggestions

Autosuggestion is a psychological process in which an individual consciously gives themselves positive affirmations to influence thoughts, emotions, and behavior. Derived from cognitive psychology, this technique is used in health interventions to improve motivation, compliance, and self-control [8], [9]. In health, autosuggestion is a non-pharmacological technique that can increase patients' confidence in managing chronic diseases, including

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hypertension. Several studies show that autosuggestion can lower stress, improve sleep quality, and enhance emotional balance, all of which help regulate blood pressure[10], [11]. This technique supports healthy behavior changes such as exercise, diet, and medication. Autosuggestions are effective because they are personalized, inexpensive, self-contained, and suitable for a limited community of health services [12], [13]. It is usually combined with relaxation, verbal affirmation, visualization, and a spiritual approach, forming a holistic intervention. In line with the biopsychosocial model, it emphasizes the psychological and social aspects of managing chronic diseases

2.4. Model RAVS

Autosuggestion techniques can play an essential role in managing hypertension, helping individuals change mindsets and behaviors that support heart and blood vessel health. This technique involves the use of positive affirmations and visualization to increase motivation in living a healthy lifestyle, which can contribute to hypertension control and stroke prevention. These techniques can provide the psychological support necessary to comply with medication and lifestyle changes essential in hypertension management and stroke prevention. Autosuggestion techniques can also help individuals overcome stigma related to hypertension treatment, thus encouraging them to seek critical treatment and reducing the risk of complications such as stroke. Thus, the application of autosuggestion techniques can be an effective tool in supporting hypertension management and stroke prevention through positive behavior change. The application of this technique can increase an individual's awareness of the importance of managing hypertension and motivate them to make the necessary lifestyle changes to prevent stroke [14], [15]

The RAVS model is a holistic autosuggestion approach with four components: Deep Breath Relaxation, Affirmation, Visualization, and Spirituality. It is designed to support independent blood pressure control by integrating biological, psychological, social, and spiritual aspects. Breathing Relaxation. In reducing physical and mental tension through controlled breathing, it is effective in lowering blood pressure and stress [16]. Affirmation strengthens the patient's belief and motivation for a healthy lifestyle and adherence to treatment. Visualization imagines a healthy body condition and stable blood pressure, reinforcing a positive self-image and a sense of hope for recovery. Spirituality connects patients with transcendental values, such as prayer, dhikr, and spiritual reflection, increasing psychological calmness and resilience [17]. RAVS was developed in response to the limitations of conventional medical interventions that have not yet reached the psychosocial aspects of hypertension. With a straightforward, low-cost, and independent approach, RAVS has the potential to become a relevant healthcare innovation for communities with limited resources, such as in Banten Province.

2.5. Previous Studies Related to Health Service Innovation and Hypertension Control

Sari's 2017 [18] research shows a variety of approaches to controlling hypertension and improving the quality of life for the elderly, including medical treatment, lifestyle changes, and psychological interventions such as autosuggestion. Autosuggestions, as a non-pharmacological method, attract attention because they help manage stress and blood pressure. Research in urban areas, such as Banten, is still limited. Shilpa et al. (2020) found significant changes in physiological parameters after meditation practice and meditation with autosuggestion, with the most important effect on blood pressure. Meditation can improve cardiovascular efficiency and homeostatic control, and autosuggestion provides additional benefits. Barnes et al. (2004) confirmed substantial differences ($p < 0.05$) in changes in blood pressure and heart rate between the meditation and control groups.

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These findings demonstrate the positive impact of meditation and autosuggestion on the control of blood pressure and heart rate in adolescents in natural settings, as assessed through blood pressure monitoring, outpatient treatment, and clinical trials. Nursalam's research [19] showed the effect of suggestive Benson and Autogenic therapies on blood pressure, anxiety, and sleep quality with a P<0.05 value. These results conclude that Benson's relaxation therapy and autogenic suggestion are effective in lowering blood pressure, anxiety, and improving the sleep quality of hypertensive patients. Other studies show that autosuggestion is effective in lowering blood pressure and improving the quality of life of older people [20], [21]. This relaxation therapy is effective, but its use in Indonesia remains limited. Causes of hypertension include stress, age, heredity, salt, and obesity [22].

3. Method

3.1. Research Design

This study combines bibliometric and meta-analytic approaches. Bibliometric Analysis: mapping autosuggestion research trends and the RAVS Model from Google Scholar, PubMed, Scopus, Dimensions, and Web of Science databases (1970–2025). The analysis includes publication patterns, geographic distribution, author collaborations, key keywords, and research trends. Meta-Analysis: evaluating the effectiveness of the RAVS Model intervention based on primary studies with strict inclusion criteria (experimental/quasi-experimental Design, blood pressure data before and after the intervention, hypertensive adult population, English/Indonesian)

3.2. Inclusion and Exclusion Criteria

The included studies are primary research with experimental or quasi-experimental designs that evaluate the autosuggestion technique of the RAVS Model or its components, report blood pressure data before and after the intervention in hypertensive adults, and are published in peer-reviewed journals in English or Indonesian. Studies without sufficient quantitative data, observational studies without intervention, children's studies, and non-research articles were excluded. Specifically, studies that are included for meta-analysis must meet the following criteria: (1) Primary research with *a cross-sectional,* experimental or quasi-experimental Design that evaluates interventions based on autosuggestive techniques of the RAVS Model or its components; (2) report quantitative data related to systolic and/or diastolic blood pressure before and after intervention; (3) performed in adult populations with hypertension or risk of hypertension; (4) available in English or Indonesian; (5) published in peer-reviewed journals. The Exclusion Criteria for this study are articles or studies that do not provide sufficient data for quantitative analysis, observational research without intervention, studies with a child population, or articles in the form of reviews, editorials, and case reports are excluded from the analysis.

3.3. Literature Search Strategy

Systematic searches were conducted in reputable electronic databases, including Google Scholar, PubMed, Scopus, Dimensions, and Web of Science, *using keywords related to Hypertension, Autosuggestion Techniques, RAVS Model, Blood Pressure Control, and Health Service Innovation.* Bibliometric data search and study selection for the meta-analysis were conducted on articles published from 1970 to 2025.

3.4. Query Literature Search.

Data search queries for bibliometric analysis and meta-analysis on several databases modify keywords such as the following: *"autosuggestion" OR "autogenic" "relaxation", "affirmation", "visualization", "spirituality", "hypertension", "high blood pressure", "blood pressure control", "controlled blood pressure", "innovation", "health innovation" "English"*

3.5. Study Selection for Bibliometrics and Meta-Analysis

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Selection was carried out through title and abstract screening, followed by full-text evaluation, to ensure the suitability of the inclusion and exclusion criteria. The PRISMA flowchart, which visually summarizes the number of articles found, filtered, excluded, and included, provides a transparent picture of the systematic review process. Two independent researchers were also involved in the selection, with discussions resolving differences of opinion. This process can be analyzed in Table 1.

Table 1. PRISMA *Flow for Meta-Analysis*

Activity Stage	Information	Sum Found Studies
Articles are found through database searches.	Number of articles found from searches in various *databases of Google Scholar, PubMed, Scopus, Dimensions, and Web of Science*	250
Articles after duplicate removal	Number of articles after deletion of the same article	200
Articles filtered	Articles filtered by title and abstract	200
Published articles	Articles that do not meet the inclusion criteria after the initial screening	150
Full articles assessed for eligibility	Thoroughly read articles for eligibility assessment	50
Published full articles	Articles that were removed after a complete assessment (e.g., because the data was incomplete or irrelevant)	16
Articles included in qualitative synthesis	Articles included for narrative analysis or review	34
Articles included in quantitative synthesis (meta-analysis)	Articles that meet the criteria for statistical meta-analysis	34

Source: Developed by Researchers 2025

3.6. Data Extraction

The data extracted for this study included study characteristics (author, year, location), population (sample size, age, sex), description of the RAVS Model intervention, intervention duration, and results of systolic and diastolic blood pressure measurements before and after the intervention. The data also includes information on medication adherence, where available.

3.7. Data Analysis

Bibliometric and meta-analytic analyses use software to map research trends. A meta-analysis was also performed using computer software to calculate the combined effects of blood pressure, test heterogeneity, and sensitivity analysis.

4. Hasil dan Pembahasan

4.1. Research Results.

The results of the study consist of two main parts: the bibliometric analysis and the meta-analysis. These two discussions are presented in the following presentation.

4.1.1. Bibliometric Analysis

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The publication, "The Development of Autosuggestion in Blood Pressure Control," is analyzed using the following data.

Figure 1. Scientific Publication on the Development of Autosuggestion in Blood Pressure Control

This data shows the development of autosuggestion research in blood pressure control for more than five decades. Collaboration among researchers across various topics demonstrates the maturity of this field. Although international cooperation remains limited, the potential for global development remains substantial. The high number of citations confirms the relevance of this study. The publication of research on autosuggestion for blood pressure control increased from 1970 to 2025, with an annual growth rate of 3.44%. The distribution of institutions and Indonesia's position can be analyzed using the following figure.

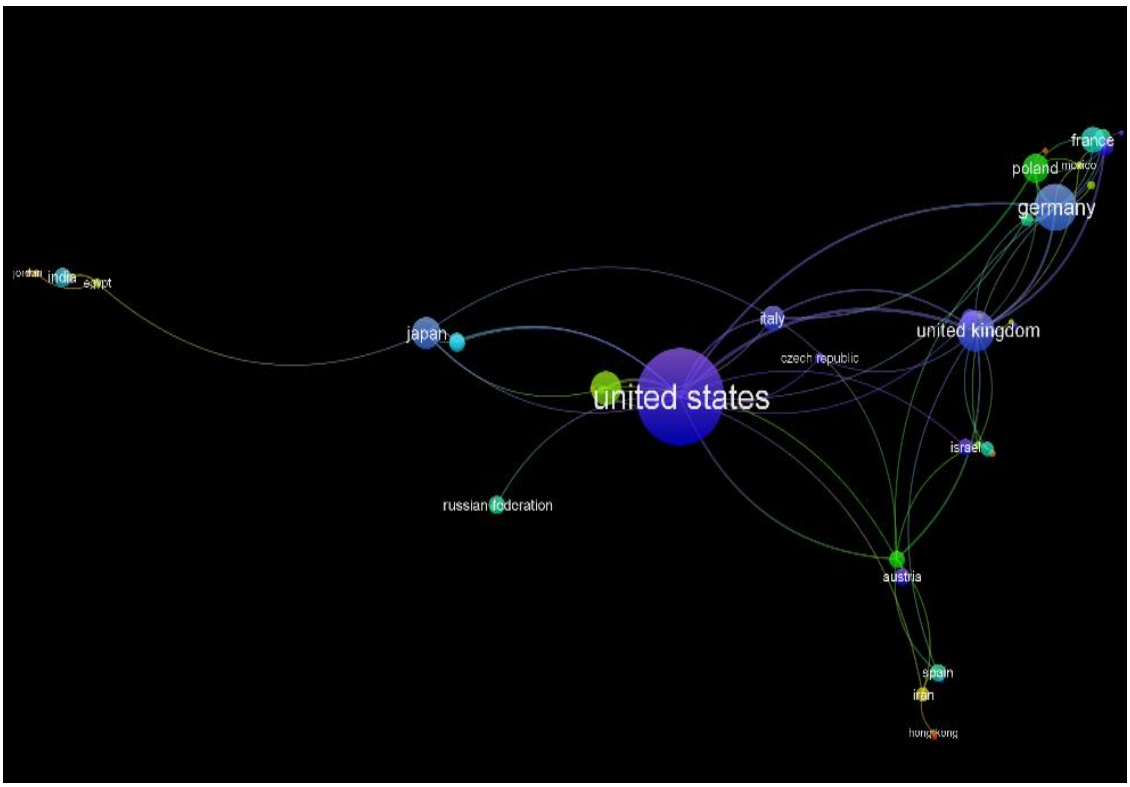

Figure 2. World Institution Center of Excellence Research Autosuggestion Method

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Figure 2 shows the network of world institutions that are centers of excellence in autosuggestion method research. The analysis of this data indicates that several key institutions play a central, highly connected role in this field. Georgia Institute of Technology emerged as the most dominant institution with the highest number of connections and collaborations, signaling its strategic position as a major research center for autosuggestions. The institution is connected to other universities, such as Emory University and the University of Southern California, demonstrating a network of cross-border collaborations and disciplines.

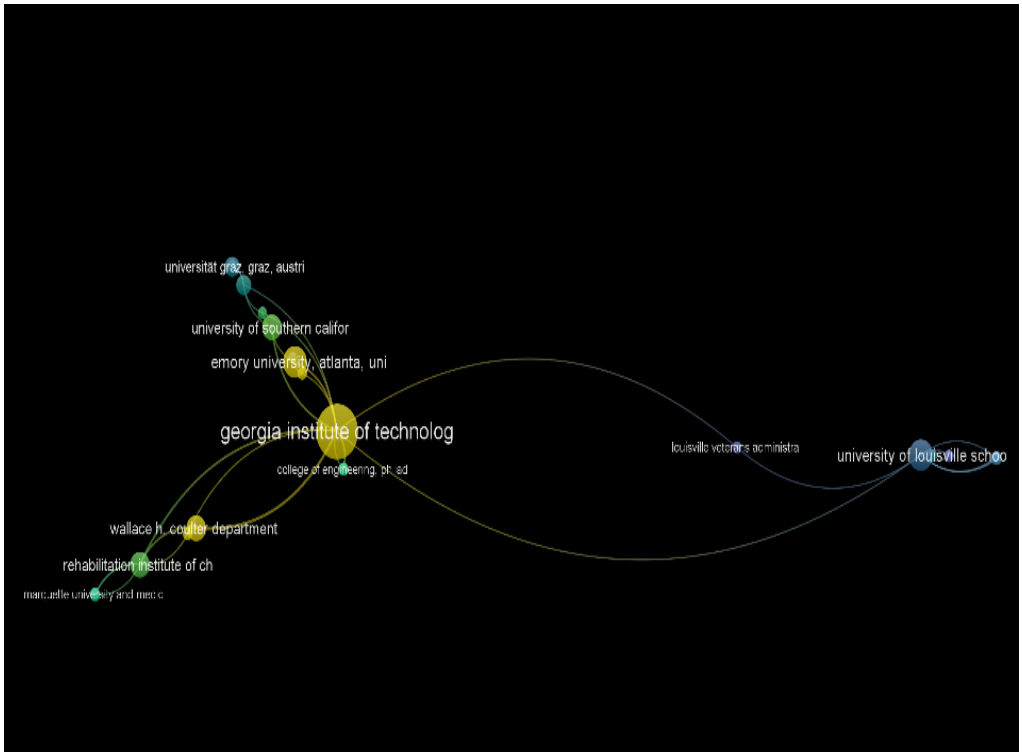

Figure 3. The country of excellence in autosuggestion research and development Indonesia's position in the development of autosuggestion for controlled blood pressure control.

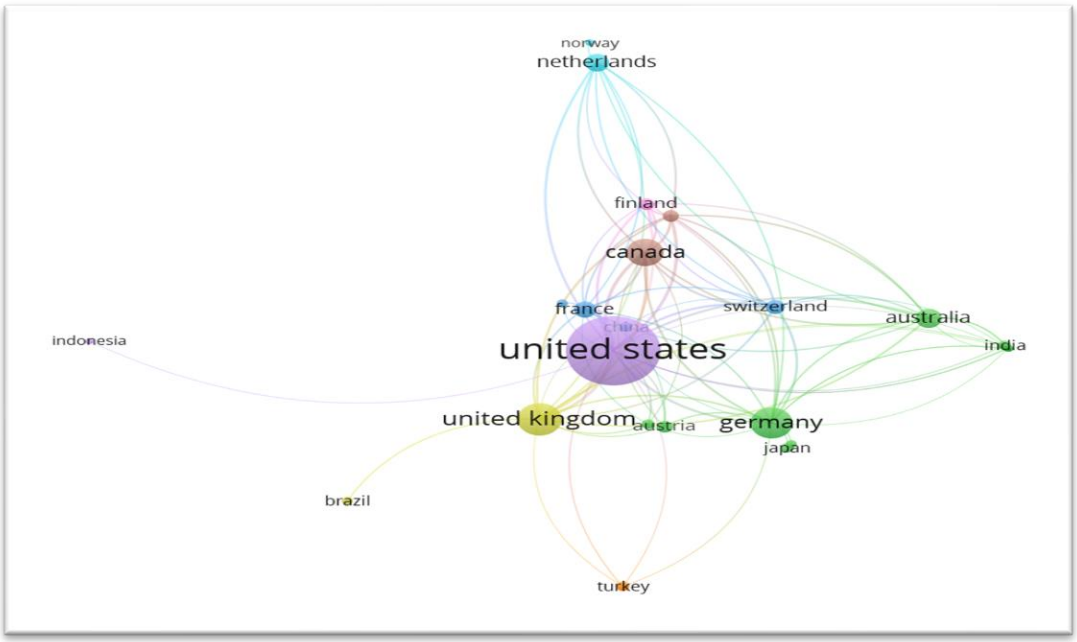

Figure 4. Indonesia's position in autosuggestion research and development

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Figures 3 and 4 show the dynamics of the country's position in the global center of excellence for automotive suggestion research and method development. The United States is a central hub, with the largest nodes and extensive connections to countries such as Japan, the United Kingdom, Germany, and other European countries. Figure 4 focuses on Indonesia's position, which looks very marginal with small nodes and minimal connections. This shows that Indonesia has not yet become a center for autosuggestion research and has limited international collaboration, with the dominance of institutions in the United States and other developed countries.

4.1.1.1 Author Collaboration

Figure 5 shows the authors' international collaborative network for the research and development of autosuggestion methods, with Fu Xin serving as the liaison center between the two main groups. The network reflects intensive, multidisciplinary cross-border collaboration, demonstrating the exchange of ideas and synergies in the development of autosuggestion methods.

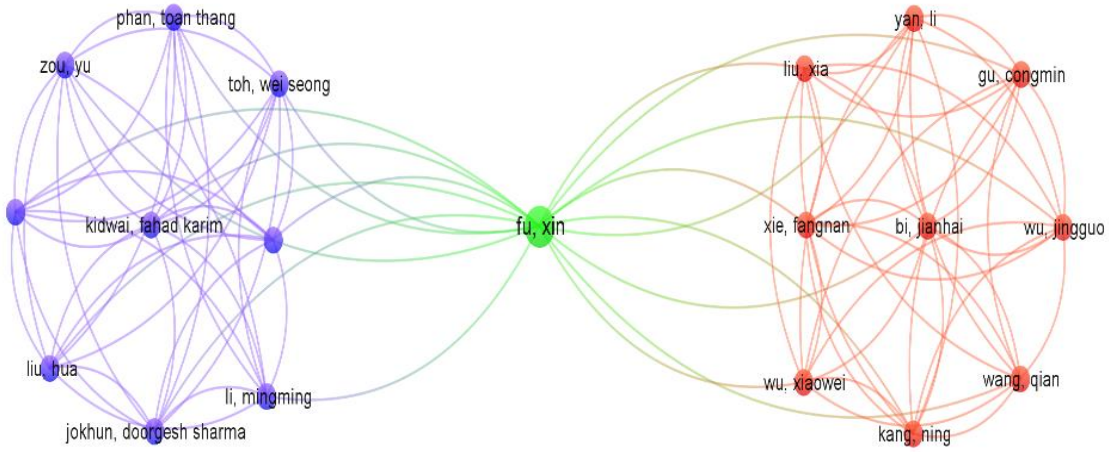

Figure 5. Collaboration of authors from different countries on the development of autosuggestion methods

4.1.1.2 Key Keyword Development

Figure 6 shows a research concept map of autosuggestion methods with the main clusters: clinical focus, red and controlled trials; green for basic concepts, psychotherapy, and therapy; blue indicates experimental and physiological approaches; Purple and yellow mark demographic focuses such as "Adult," "Human," and "Young Adult."

Overall, this concept map reflects the multidisciplinary and comprehensive nature of autosuggestion research, which combines clinical, psychological, and biomedical approaches. This structure confirms that the development of autosuggestion methods is not only rooted in psychological theory but is also supported by strong empirical evidence from various fields of science, making it a credible and applicable approach in the context of health and therapy. Key keywords include clinical, psychological, physiological, and demographic aspects, indicating the multidisciplinary and complex nature of these fields.

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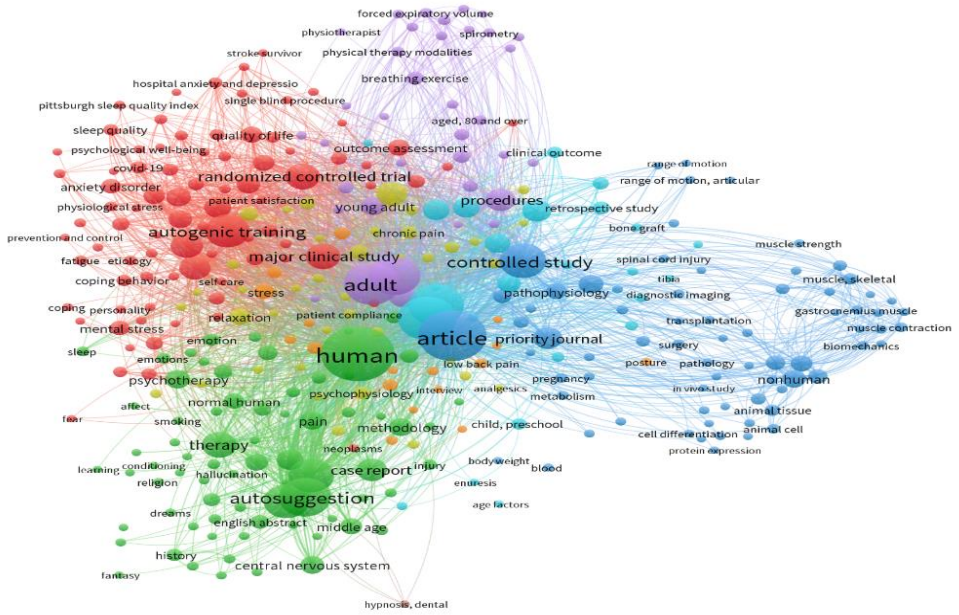

Figure 6. Main keywords: development of autosuggestion methods in controlled blood pressure control

4.1.1.3 Evolution of Developmental Study

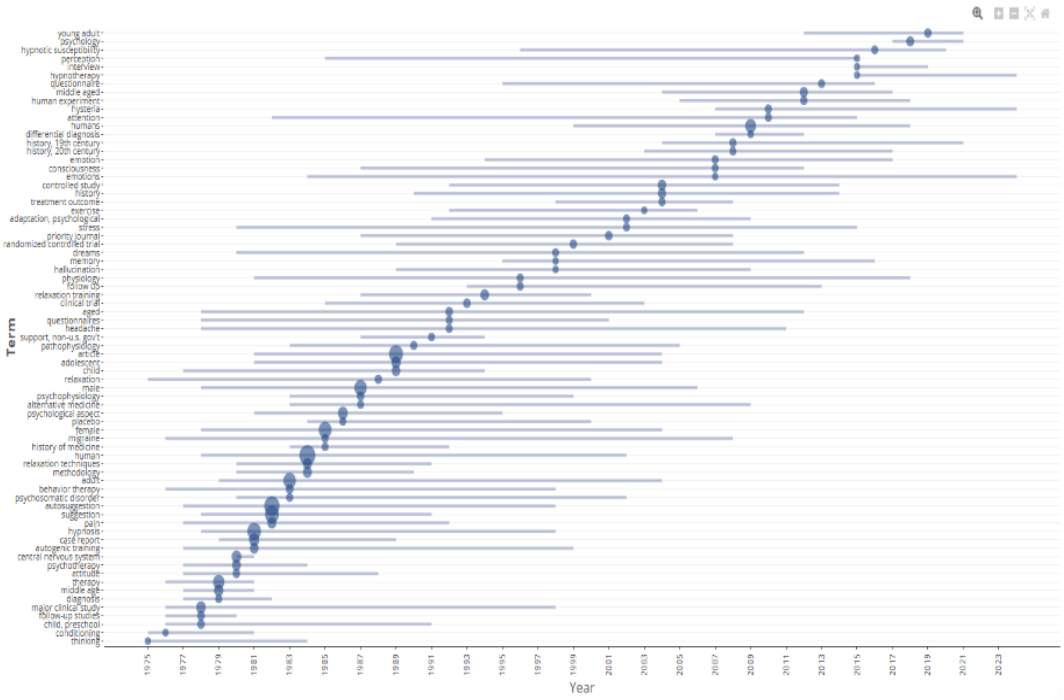

Figure 7. Evolution of the development of autosuggestion methods in blood pressure control

Figure 7 shows the evolution of research on the autosuggestion method for blood pressure control in hypertensive patients from 1970 to 2023. This graph shows the key terms used in the study and the evolution of the research focus over time. It has been observed that early research has focused more on basic concepts such as "*conditioning," "child," and "major clinical study." In contrast,* in the following decades, more specific and complex terms such as *"randomized controlled trial," "psychosomatic disorder," and "relaxation training" have*

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emerged. The evolution of research has shifted focus from basic concepts to clinical trials and relaxation-based interventions.

4.1.2. Meta Analysis

4.1.2.1. Types of Non-Pharmacological Therapies in Controlled Blood Pressure for Hypertensive Patients.

The results of the meta-analysis showed a range of non-pharmacological interventions for hypertension, such as SSBM, salt reduction education, community approach, acupressure therapy and Murottal Al-Qur'an, combined training, yoga, nutrition consultation, walking exercises, self-management, progressive muscle relaxation, imagination therapy, and slow breathing, which are effective in lowering blood pressure, improving heart function, reducing stress, and improving diet and dietary adherence.
Natural breathing exercises, aromatherapy, and mindfulness programs help reduce blood pressure through relaxation, increased oxygenation, and nervous system regulation [23]. Exercises such as Tai Chi, aerobics, yoga, and music therapy are also beneficial, as they improve flexibility, balance, and cardiorespiratory capacity and reduce stress[24], [25]. Autogenic relaxation techniques and mindfulness meditation help with anxiety and hypertension management through self-relaxation and autonomic nervous system regulation.

4.1.2.2. Combined primary studies

The results of the Combined Primary Study of Non-Pharmacology for hypertension can be analyzed in the following graph.

FOREST PLOT

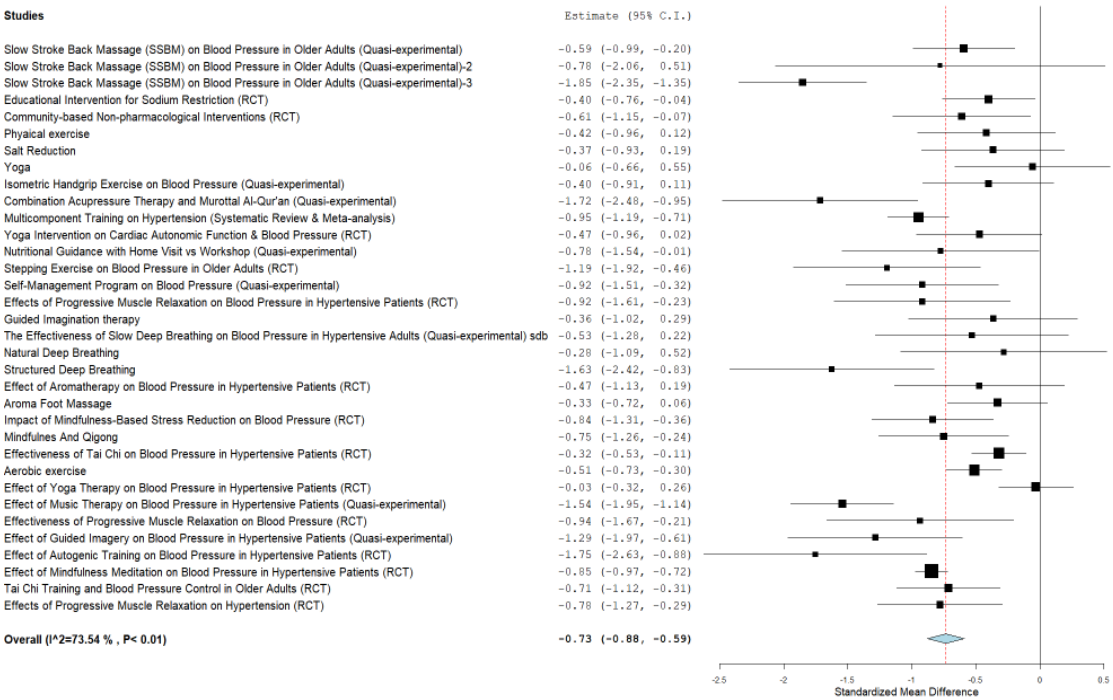

Figure 8. Combined Primary Study on Blood Pressure Control in Hypertensive Patients

Summary Continuous Random-Effects Model

Metric: Standardised Mean Difference				
Model Results				
Estimate	*Lower bound*	*Upper bound*	*Std. error*	*p-Value*

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-0.73	*-0.88*	*-0.59*	*0.07*	*< 0.01*
Heterogeneity				
tau² Q(df=33).	*Het*		*p-Value*	*I2*
0.11	*124.71*		***< 0.01***	***73.54***

This meta-analysis showed a significant SMD of −0.73 (95% CI: −0.88, −0.59; p < 0.01), indicating a moderate-to-large effect of non-pharmacological interventions in lowering blood pressure in people with hypertension. Negative SMD values indicated consistent decreases in blood pressure across studies. High levels of heterogeneity (I2=73.54%, Q(33)=124.71, p<0.01) indicated variability in effects across studies, possibly due to variation in intervention type, study Design, population, and measurement methods. Variance between studies (τ2 = 0.11) supports the random-effects model. The most effective and significant interventions included: Combination Acupressure Therapy and Murottal Al-Qur'an (SMD = -1.72).

Structured Deep Breathing (SMD=−1.63), Autogenic Training (SMD=−1.75), Guided Imagination (SMD=−1.29), Music Therapy (SMD=−1.54). This intervention confirms the potential of mind-body therapy and relaxation to significantly lower blood pressure. Moderate but consistent effects were found in: Multicomponent Training (SMD=−0.95), Progressive Muscle Relaxation (SMD between −0.78 to −0.94), Mindfulness Meditation (SMD=−0.85), Tai Chi (SMD=−0.71 to −0.32), Aerobic exercise and yoga (SMD around −0.40 to −0.51). Some interventions showed little or no effect, such as salt reduction and natural respiration, with variation in effectiveness depending on study Design and quality.

4.1.2.3. Non-Pharmacological Application based on the Study of Several Journal Articles

The results of applying non-pharmacological methods, based on several studies, are described as follows.

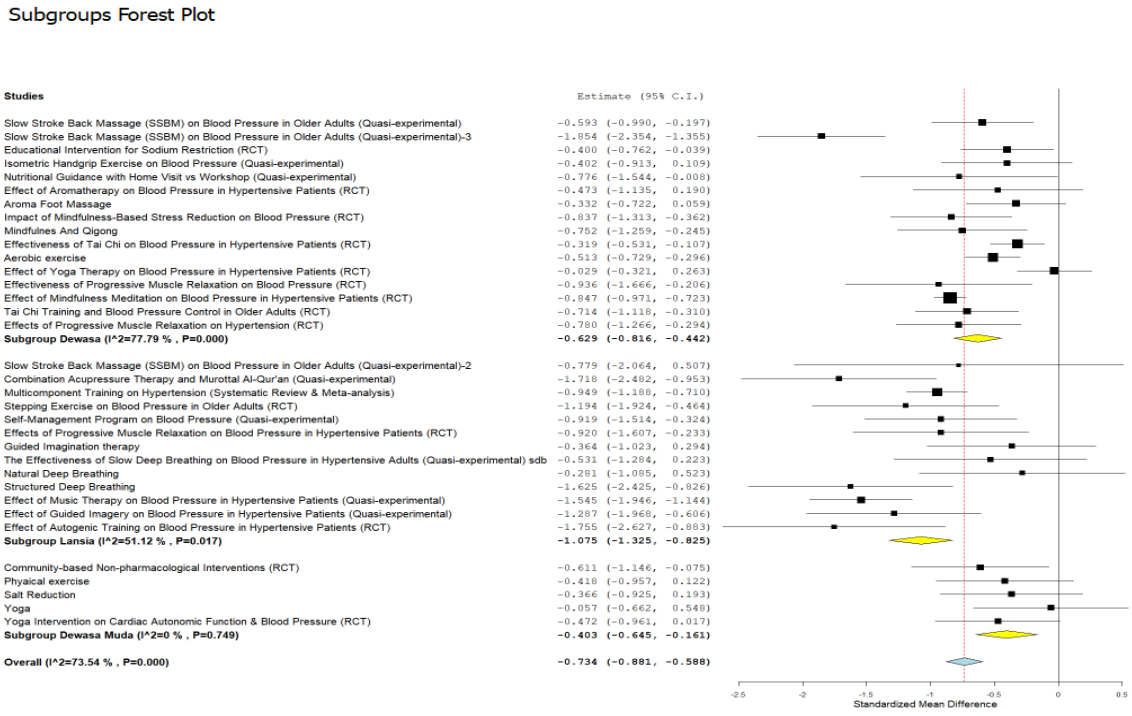

Figure 9*. Application of Non-Pharmacological Approach to Blood Pressure in Hypertensive Patients*

Continuous Random-Effects Model

Metric: Standardized Mean Difference				
Model Result	Studies Estimate	Lower Bound	Upper Bound	Std. Error p-Val

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Dewasa	-0.629	-0.816	-0.442	0.095	< 0.001
Lansia	-1.075	-1.325	-0.825	0.128	< 0.001
Dewasa Muda	-0.403	-0.645	-0.161	0.124	< 0.001
Overall	-0.734	-0.881	-0.588	0.075	< 0.001

This meta-analysis confirmed that non-pharmacological interventions were effective in lowering blood pressure, with SMD −0.734 ($p<0.001$). The most significant effect on older people: SMD −1,075, excellent response to therapies such as massage, acupressure, tai chi, and progressive muscle relaxation. In adults, the effect was significant with SMD −0.629; young adults showed the lowest but still significant effect, SMD −0.403. This intervention is effective for all ages, especially older people. The elderly subgroup showed moderate heterogeneity (I^2=51.12%), variation in effects between studies, remaining within limits. In adults, heterogeneity was higher (I^2 = 77.79%), likely due to differences in interventions and characteristics. In young adults, low heterogeneity (I^2 = 2.0%) indicates consistent effects.

The effectiveness of non-pharmacological interventions in the elderly confirms the importance of this approach in the management of hypertension. A significant decrease in blood pressure across all age subgroups suggests that this therapy can be widely applied, with adjustments based on age characteristics. The variation between subgroups indicates the need for further research to identify the factors that influence the response to therapy. This meta-analysis shows that non-pharmacological approaches are effective in lowering blood pressure, especially in the elderly, supporting their implementation as a key strategy for the control of hypertension.

4.1.2.4. Comparison of Blood Pressure Reduction Between Studies

The results of the article's analysis show that non-pharmacological interventions, such as physical, relaxation, and spiritual approaches, are effective in lowering blood pressure in hypertensive patients. The RAVS approach excels in mind-body and relaxation, while the Non- RAVS focuses more on education and physicality. The combination of the two can be the best strategy in managing hypertension holistically and personally.

4.1.2.5. Analysis of the Effectiveness of RAVS and Non-RAVS Models

Analysis of RAVS and Non-RAVS showed different effectiveness in the management of hypertension. RAVS, such as breath relaxation, affirmation, visualization, and spirituality, are more effective, especially in older people, with significant effects such as d = -1.755 for Autogenic Training and d = -1.54 for Music Therapy. Non-RAVS, including exercise and salt reduction, showed moderate effects. Studies confirm the advantages of RAVS and the importance of sustainable strategies, with this therapy as a complement to lifestyle modifications to control blood pressure. The analysis used data from 34 studies that included mean blood pressure values before and after the intervention, standard deviations, and effect measures and variances. Studies were classified into RAVS and Non-RAVS based on the characteristics of the intervention. Statistical synthesis includes a comparative evaluation of effects, an assessment of heterogeneity, and subgroup analyses by demographics. RAVS interventions showed greater blood pressure reductions, often > -1.0 for SBP and DBP, such as Autogenic Training (d = -1.755), Music (d = -1.545), and Deep Breathing (d = -1.625), especially in older people. In contrast, Non-RAVS such as Physical Exercise (d = -0.418), Salt Reduction (d = -0.366), and Education (d = -0.400) produced moderate but consistent decreases.

Some RAVS interventions, such as yoga, mindfulness, guided imagery, aromatherapy, and progressive muscle relaxation, are more effective at lowering blood pressure than non-RAVS interventions, such as physical exercise, salt reduction, and education. For example,

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autogenic training therapy (-19.0 mmHg SBP, -10.0 mmHg DBP) and music therapy (-19.1 mmHg SBP, -13.67 mmHg DBP) showed more significant blood loss than exercise (-5.4 mmHg SBP, -1.5 mmHg DBP) or salt reduction (-4.0 mmHg SBP, -2.3 mmHg DBP). Heterogeneity analysis showed moderate variability; RAVS studies show greater effects and better consistency, especially in older people. Psychophysiological mechanisms such as stress reduction and emotional regulation underlie these results.

The high effectiveness of RAVS confirms the importance of mind and body association in the management of hypertension, supporting its use as a primary therapy, especially for the elderly at risk of polypharmacy. The Non-RAVS strategy remains basic, but the effect is moderate, showing potential for improvement with a combined approach. Variations in study Design and population characteristics limit interpretation; research should focus on standards and mechanisms for optimizing interventions. This analysis shows that RAVS is more effective than non-RAVS in lowering blood pressure, especially in older people. The integration of relaxation, affirmation, visualization, and spirituality marks a shift to patient-centered holistic care. Health guidelines and policies should incorporate these insights to improve cardiovascular outcomes. RAVS has the potential to be more effective in the management of hypertension and is essential in psychophysiological approaches, as well as relaxation. This mind-body-spiritual approach not only lowers blood pressure but also improves the psychological well-being and quality of life of hypertensive patients.

4.2. Discussion

Interpret the results of bibliometric analysis and meta-analysis, compare them with previous literature, and discuss the implications of RAVS Model innovations in public health services. Recent analyses integrating the methodology reveal strong evidence supporting the effectiveness of the RAVS Model in the management of hypertension. These advances redefine the paradigm of non-pharmacological interventions and pave the way for transformative public health service strategies. Bibliometric analysis shows an increase in academic attention to therapies that integrate mind-body and spiritual aspects, reflecting a shift in holistic and patient-centered paradigms. A meta-analysis synthesis of 34 primary studies showed that RAVS interventions consistently resulted in greater blood pressure reductions than traditional non-RAVS methods, often exceeding the threshold of significant clinical impact, especially in older people. These findings corroborate and expand previous research on the role of psychosocial and spiritual factors in cardiovascular health. In contrast to lifestyle modification, RAVS therapy targets cognitive-emotional pathways, nervous system regulation, and stress-mitigation mechanisms, providing greater therapeutic benefits. This understanding is aligned with contemporary integrative medicine frameworks that advocate multidimensional health interventions.

The RAVS model has a significant impact on public health services. The integration of RAVS-based programs improves cultural access, compliance, and acceptance, especially in resource-constrained areas. By reducing reliance on pharmacological therapies and the risk of drug side effects, RAVS interventions offer a sustainable approach that empowers patients in controlling hypertension. Policymakers and health practitioners are encouraged to integrate RAVS strategies in hypertension management guidance. Investments in training, the development of culturally sensitive protocols, and digital platforms are essential to achieve the potential of this model. Bibliometric evidence and meta-analysis establish RAVS as a transformative innovation in hypertension treatment. Its holistic and integrative nature promises to improve clinical outcomes and global public health impacts. Research and strategic implementation are essential to integrating RAVS into the health paradigm and to understanding its benefits for various populations.

The analysis shows an increase in publications on mind-body interventions and spirituality, reflecting a shift in research paradigm towards a holistic and integrative

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approach that emphasizes psychological and emotional aspects in the management of hypertension. The collaboration network and key themes demonstrate the consolidation of global knowledge and interest in the RAVS Model. A meta-analysis of 34 primary studies showed that RAVS-based interventions consistently lowered blood pressure, with significant effects, especially in older people, through modulation of the nervous system, stress reduction, and improved psychological well-being. These results confirm the clinical effectiveness and cultural relevance of the RAVS Model. Although research is advanced, consistent protocol standards, long-term research, exploration of biological mechanisms, and the development of digital technologies for access and personalization are needed. This synthesis confirms the RAVS Model as an essential innovation in the practical and holistic management of hypertension. Development and integration into healthcare systems can improve clinical outcomes, patient experience, and reduce economic burdens. Researchers, practitioners, and policymakers are advised to support these innovations through collaboration and sustainable investment. The development of autosuggestion with RAVS mode going forward includes integrating it into hypertension management as a key component, using technology for delivery via digital platforms and wearable devices, developing programs based on patient profiles and responses, and multimodal approaches that combine autosuggestion with other lifestyle and medical interventions. This strategy aims to improve blood pressure control, adherence, access, and the effectiveness of therapy, and to maximize treatment outcomes and reduce the global burden of hypertension

5. Conclusion

Recent research combining bibliometric data and meta-analysis demonstrates the effectiveness of the RAVS Model in managing hypertension, providing strategic recommendations and significant implications for clinical practice and public health policy.

5.1. Conclusion

Health services based on the autosuggestion technique of the RAVS model are effective in controlling hypertensive blood pressure in the community. This approach has the potential to improve clinical outcomes and compliance and can be applied in primary care. The analysis showed the RAVS model was more effective than traditional non-pharmacological interventions in controlling blood pressure, especially in older people. These results are supported by evidence from various studies, confirming the RAVS Model as a holistic approach that addresses the physiological and psychosocial aspects of hypertension.

5.2. Advice and Recommendations

It is recommended that a widespread RAVS autosuggestion model be developed across various communities, and that follow-up research with experimental designs be conducted to strengthen the evidence of the effectiveness and contextual adaptation of these innovations. Recommendations from these outcomes include clinical integration: healthcare providers should adopt RAVS-based interventions as an additional standard of care for hypertension, with an emphasis on personalization and cultural sensitivity. Research development: follow-up studies should focus on long-term effectiveness, mechanisms of action, and optimization of delivery methods, including digital technologies. Policy implementation: policymakers

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should recognize and support RAVS interventions in national hypertension management guidelines and community programs, and facilitate training and resources for these interventions.

5.3. Implications of Research Results

The effectiveness of the RAVS Model, especially among the Elderly, marks a paradigm shift toward integrative, patient-centered hypertension care. This model can improve clinical outcomes, improve patient adherence, and reduce healthcare costs by minimizing pharmacotherapy dependence and reducing the risk of side effects. In addition, it aligns with the principles of holistic health, making it a transformative tool for strengthening public health equity and resilience.

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