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Case Study

Five-Finger Relaxation as a Complementary Nursing Intervention for Blood Pressure Management in Patients with Hypertension: A Multiple-Case Report

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Abstract

Hypertension requires continuous management through pharmacological therapy and complementary nursing interventions to support blood pressure control. Five-finger relaxation is a simple non-pharmacological technique that may promote relaxation and support hypertension management. This multiple-case report aimed to describe the application of five-finger relaxation and changes in blood pressure among two patients with hypertension. The intervention was administered for 15 minutes once daily for three consecutive days, while both patients continued their prescribed antihypertensive therapy. Blood pressure was measured using a calibrated digital sphygmomanometer before and after each session, and serial measurements were analyzed descriptively. Blood pressure decreased after each session in both patients. In Patient 1, mean blood pressure decreased from 162.7/94.0 to 155.3/90.0 mmHg, while in Patient 2, it decreased from 168.7/96.0 to 161.3/92.0 mmHg. Both patients demonstrated mean reductions of 7.3 mmHg in systolic blood pressure and 4.0 mmHg in diastolic blood pressure. No clinical deterioration was observed during the intervention period. These findings suggest that five-finger relaxation may serve as a simple complementary nursing intervention associated with short-term blood pressure reductions. However, its independent effectiveness cannot be established because both patients continued antihypertensive therapy and no comparison group was included.

INTRODUCTION

Hypertension remains a major global public health challenge because of its high prevalence and substantial contribution to cardiovascular morbidity and mortality. Persistently elevated blood pressure is often asymptomatic and may remain undetected until cardiovascular or other target-organ complications develop.

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Uncontrolled hypertension increases the risk of stroke, coronary heart disease, heart failure, and chronic kidney disease. According to the World Health Organization, approximately 1.4 billion adults worldwide are living with hypertension, while blood pressure control remains inadequate in a substantial proportion of affected individuals.[1] These circumstances underscore the importance of sustained, evidence-based hypertension management, including pharmacological treatment, lifestyle modification, regular monitoring, and appropriate supportive nursing care.

In Indonesia, hypertension continues to represent a substantial burden on the healthcare system. The 2023 Indonesian Health Survey reported a hypertension prevalence of 30.8% among adults aged 18 years and older based on blood pressure measurements, whereas 8.6% reported having received a diagnosis from a healthcare professional.[2] This discrepancy suggests a substantial gap between the prevalence of elevated blood pressure and its clinical recognition. Strengthening hypertension detection, treatment adherence, and continuity of care at the primary healthcare level is therefore essential to reducing preventable cardiovascular complications.[3]

Effective hypertension management requires an integrated approach that extends beyond medication administration. Recommended strategies include adherence to prescribed antihypertensive therapy, dietary modification, regular physical activity, weight management, and systematic blood pressure monitoring. Psychological stress and anxiety may also influence blood pressure through sympathetic nervous system activation, which can increase heart rate, myocardial contractility, and peripheral vascular resistance.[4] Nurses play an important role in assessing physiological and psychological conditions, supporting treatment adherence, providing patient education, monitoring clinical responses, and facilitating appropriate non-pharmacological interventions as adjuncts to standard medical management.[5]

Five-finger relaxation, also described in some nursing literature as five-finger hypnosis, is a guided relaxation technique involving focused attention, slow breathing, sequential finger contact, and positive mental imagery. Patients are encouraged to associate specific finger movements with personally meaningful experiences, including feelings of health, supportive relationships, personal achievement, and comforting environments.[6] The intervention is relatively simple to administer, requires minimal equipment, and can be incorporated into routine nursing care. Previous studies involving patients with hypertension have primarily examined psychological outcomes, particularly anxiety reduction, following five-finger relaxation or related techniques.[7] However, improvements in psychological symptoms should not automatically be interpreted as evidence of clinically meaningful or sustained blood pressure reduction.

The physiological rationale for relaxation-based interventions is related to the interaction between psychological stress and autonomic cardiovascular regulation. Stress-related sympathetic activation may contribute to transient elevations in blood pressure, whereas relaxation techniques may facilitate reduced physiological arousal.[8] Systematic reviews of broader relaxation and stress-management interventions, including controlled breathing, mindfulness, meditation, and progressive muscle relaxation, have reported potential short-term reductions in blood pressure among individuals with elevated blood pressure or hypertension.[9] Nevertheless, these findings are indirect and cannot establish the effectiveness of five-finger relaxation specifically. Differences in intervention components, intensity, duration, patient characteristics,

and concurrent treatment limit the transferability of evidence across relaxation techniques.[10]

An important gap in the available clinical literature concerns the detailed documentation of individual blood pressure trajectories during the implementation of five-finger relaxation in routine nursing care. Existing reports have frequently emphasized psychological outcomes, while patient-specific descriptions of systolic and diastolic blood pressure immediately before and after repeated relaxation sessions remain comparatively limited. Such observations are clinically relevant because blood pressure can fluctuate in response to antihypertensive medication, measurement conditions, physical activity, rest, emotional state, and other contextual factors. In particular, when relaxation is administered alongside prescribed medication, any observed blood pressure changes must be interpreted as occurring under combined clinical management rather than attributed exclusively to the relaxation intervention.[11]

A descriptive multiple-case report can contribute to this area by documenting intervention procedures, medication timing, individual clinical characteristics, and short-term physiological observations within their actual care context. However, without a comparison condition or extended follow-up, this approach cannot determine independent treatment effectiveness, sustained blood pressure control, or broader generalizability. Accordingly, the present multiple-case report aimed to describe the implementation of a standardized five-finger relaxation protocol and the immediate within-session changes in systolic and diastolic blood pressure in two patients with hypertension who continued their prescribed antihypertensive therapy over a three-day observation period.

METHODS

Study Design

This study used a descriptive case study design with a multiple-case report approach involving two patients with hypertension. Case management was conducted through the nursing process, including assessment, nursing diagnosis, planning, implementation, and evaluation. The primary focus of the case report was the application of five-finger relaxation as a complementary nursing intervention and the description of changes in systolic and diastolic blood pressure before and after each intervention session. Given the descriptive nature of the multiple-case report, the study was not designed to establish causal effectiveness or generalize the findings to a broader population.[12]

Study Variables and Outcomes

The intervention of interest was five-finger relaxation, administered according to a standardized procedure. The primary clinical outcomes were systolic blood pressure (SBP) and diastolic blood pressure (DBP), expressed in mmHg and measured immediately before and after each intervention session. Additional clinical information documented to support interpretation included level of consciousness, presenting complaints, antihypertensive medication and dosage, time of medication administration, time of intervention, patient activity, and other clinical conditions that could potentially influence blood pressure.[13]

Case Subjects and Selection

The case subjects consisted of two adult patients with hypertension receiving care at a primary healthcare center in Karanganyar Regency, Central Java, Indonesia. Cases were selected purposively based on their clinical suitability for the intervention and predefined case criteria.

The inclusion criteria were adult patients with a documented diagnosis of hypertension who were fully conscious, clinically stable, able to communicate and follow verbal instructions, and willing to participate in the three-day nursing intervention. Patients with hypertensive emergencies, impaired consciousness, inability to follow relaxation instructions, or other clinical conditions requiring immediate medical management were excluded. Participation was voluntary, and informed consent was obtained before the nursing intervention.[6]

Both patients completed the three-day observation period. Patient 1 was a 58-year-old woman with a six-year history of hypertension who was receiving amlodipine 5 mg once daily. Patient 2 was a 62-year-old man with an eight-year history of hypertension who was receiving amlodipine 10 mg once daily. Both patients continued their prescribed antihypertensive regimens throughout the observation period. Medication administration was documented at approximately 07:00, while five-finger relaxation sessions were conducted at approximately 10:00 each day. Antihypertensive treatment was considered an important co-intervention when interpreting the observed blood pressure changes. Prescribed medication was not intentionally withheld, delayed, or modified for the purposes of this case report.

Study Setting and Period

Case management was conducted at a primary healthcare center in Karanganyar Regency, Central Java, Indonesia, for three consecutive days, from July 7 to July 9, 2026. The intervention for both patients was scheduled at approximately the same time each day to minimize temporal variation in the implementation conditions.

Instruments and Blood Pressure Measurement

Systolic and diastolic blood pressure were measured using a calibrated digital sphygmomanometer and recorded in mmHg. The same standardized measurement procedure was applied to both patients and across all intervention sessions.

Before the initial measurement, each patient rested in a seated position for five minutes. The patient's back was supported, feet were kept uncrossed, the arm was supported at heart level, and the patient was instructed not to speak during blood pressure measurement. An appropriately sized cuff was applied according to the patient's arm circumference. The same measurement procedure was maintained throughout the three-day case management period.

A standard operating procedure for five-finger relaxation was used as the intervention guide to maintain consistency in the sequence and duration of the intervention.[14]

Data Collection and Intervention Procedures

Case management began with a comprehensive nursing assessment that included demographic and clinical characteristics, history and duration of hypertension, presenting complaints, current antihypertensive therapy, medication dosage and frequency, medication adherence, psychological condition, activity, rest patterns, and vital signs.

Particular attention was given to antihypertensive therapy as an important co-intervention. The type and dose of antihypertensive medication, the time of the most recent medication intake, and the time of five-finger relaxation were documented during each session. Prescribed

antihypertensive therapy was continued throughout the case management period and was not discontinued, delayed, or modified for the purpose of this case report.[15]

Before each intervention session, the patient rested for five minutes, after which systolic and diastolic blood pressure were measured and recorded as the pre-intervention measurement. Five-finger relaxation was subsequently administered for 15 minutes, once daily, for three consecutive days.

During the intervention, each patient was positioned comfortably and instructed to regulate breathing slowly while focusing attention on a relaxed state. The patient was then guided to sequentially bring the thumb into contact with the index finger, middle finger, ring finger, and little finger while following positive imagery instructions. The imagery involved recalling experiences associated with feeling healthy, being with significant persons, experiencing achievement or appreciation, and being in a place or situation associated with comfort.

The patient's general condition, comfort, level of consciousness, and ability to follow instructions were observed throughout each session. Following completion of the 15-minute relaxation session, the patient remained seated comfortably and rested for an additional five minutes. Blood pressure was then measured again using the same device and standardized procedure and recorded as the post-intervention measurement.[12]

The procedure was repeated consistently for three consecutive days in both cases. Antihypertensive medication was taken at approximately 07:00, whereas five-finger relaxation was administered at approximately 10:00, resulting in an interval of approximately three hours between medication intake and the intervention. Activities before blood pressure measurement, patient complaints, and other conditions potentially influencing blood pressure were also documented to provide clinical context for interpretation.

Data Analysis and Clinical Evaluation

Data were analyzed descriptively at the individual case level. Systolic and diastolic blood pressure measurements obtained before and after each five-finger relaxation session were compared within each patient across the three-day case management period.

The absolute change in blood pressure for each session was calculated as:

Δ Blood Pressure = Post-intervention Blood Pressure – Pre-intervention Blood Pressure

A negative value indicated a reduction in blood pressure following the intervention session. Mean pre-intervention and post-intervention systolic and diastolic blood pressure values were subsequently calculated separately for each patient to describe the overall pattern of change during the three-day period.

Serial measurements were presented in tables and graphical form to facilitate visualization of within-case blood pressure patterns. Information regarding antihypertensive medication and the timing of medication administration relative to the intervention was considered when interpreting the observed changes.[6]

Because this report involved only two cases, no inferential statistical analysis was performed. The observed changes were interpreted descriptively and were not used to establish causality or the independent effectiveness of five-finger relaxation.

Ethical Considerations

The management and reporting of both cases were conducted in accordance with established ethical principles, including

respect for autonomy, beneficence, non-maleficence, privacy, and confidentiality. Ethical approval was obtained from the Health Research Ethics Committee of Universitas Muhammadiyah Semarang, Indonesia. Both patients were provided with comprehensive information regarding the purpose, procedures, potential benefits, voluntary nature of participation, and their right to refuse or withdraw without affecting their routine medical care. Written informed consent was obtained from both patients before the implementation of the nursing intervention, including consent for the use of their anonymized clinical information for scientific publication.[16]

Patient privacy and confidentiality were strictly maintained throughout case management and manuscript preparation. All direct personal identifiers, including names, addresses, and medical record numbers, were excluded from the manuscript. Clinical information was presented in an anonymized format to minimize the risk of patient identification. The reporting of these cases was conducted in accordance with the ethical approval and applicable institutional requirements for case-report publication.[17]

RESULTS

Two patients with hypertension completed the three-day case management and all scheduled five-finger relaxation sessions. Both patients remained fully conscious, were able to communicate and follow the intervention instructions, and continued their prescribed antihypertensive medications throughout the case management period. The clinical characteristics and management profiles of both patients are presented in Table 1.

Table 1. Clinical Characteristics and Case Management Profiles of the Two Patients with Hypertension

Characteristics	Patient 1	Patient 2
Age	58 years	62 years
Sex	Female	Male
Duration of hypertension	6 years	8 years
Main complaint	Heavy sensation in the head and neck tension	Mild dizziness and difficulty relaxing
Level of consciousness	Compos mentis	Compos mentis
Antihypertensive therapy	Amlodipine 5 mg once daily	Amlodipine 10 mg once daily
Medication time	07:00	07:00
Intervention time	15 minutes	15 minutes
Frequency	Once daily	Once daily
Intervention period	3 consecutive days	3 consecutive days

Patient 1 was a 58-year-old woman with a six-year history of hypertension who reported a heavy sensation in the head and neck tension. Her blood pressure at the beginning of case management was 166/96 mmHg. Patient 2 was a 62-year-old man with an eight-year history of hypertension who reported mild dizziness and difficulty relaxing, with an initial blood pressure of 172/98 mmHg. Both patients were compos mentis and able to participate in the complete intervention procedure.

Both patients continued their routine antihypertensive treatment throughout the three-day case management period. Patient 1 received amlodipine 5 mg once daily, whereas Patient 2 received amlodipine 10 mg once daily. Medication was taken at approximately 07:00, while five-finger relaxation was administered at approximately 10:00, resulting in an interval of approximately three hours between antihypertensive medication intake and the intervention.

Nursing Diagnosis and Planning

Based on the nursing assessment and the nursing diagnosis documented during case

management, risk for ineffective cerebral tissue perfusion was identified as the priority nursing diagnosis in both patients in the context of persistent hypertension. This risk diagnosis was used to guide preventive nursing management, particularly blood pressure monitoring, observation of the level of consciousness and clinical condition, and early identification of possible deterioration.

At the initial assessment, Patient 1 reported a heavy sensation in the head and neck tension, whereas Patient 2 reported mild dizziness and difficulty relaxing. These complaints were documented as part of the patients' clinical presentations and were not interpreted as defining characteristics of the risk diagnosis. Both patients remained compos mentis, were able to communicate and follow instructions, and showed no clinical condition requiring emergency management during the initial assessment.

The nursing plan focused on monitoring clinical conditions associated with elevated blood pressure and supporting blood pressure management while maintaining the prescribed antihypertensive therapy. Nursing evaluation indicators included maintenance of the level of consciousness, absence of worsening clinical complaints or clinical deterioration, and serial systolic and diastolic blood pressure responses throughout the case management period.

Nursing interventions included standardized blood pressure monitoring, observation of the level of consciousness and clinical complaints, assessment of ongoing antihypertensive therapy, documentation of medication administration time, provision of a comfortable environment, reinforcement of adherence to prescribed hypertension treatment, and implementation of five-finger relaxation as a complementary nursing intervention.

Five-finger relaxation was administered for 15 minutes once daily for three consecutive days. Systolic and diastolic blood pressure were measured before and after each session to document the physiological response within each case.

Implementation of Five-Finger Relaxation

Five-finger relaxation was successfully implemented in both patients for three consecutive days. Before each session, the patient was placed in a comfortable seated position and allowed to rest for five minutes. Blood pressure was subsequently measured using the standardized procedure as the pre-intervention value.

During the 15-minute intervention, each patient was guided to regulate breathing slowly and focus attention on a relaxed state. The patient sequentially brought the thumb into contact with the index, middle, ring, and little fingers while following guided positive imagery related to health, meaningful relationships, achievement or appreciation, and comfortable situations.

Both patients were able to follow the instructions throughout the intervention sessions. Following each relaxation session, the patient rested for five minutes before post-intervention blood pressure measurement. The same procedure was consistently applied across all three sessions. No modification, postponement, or discontinuation of the prescribed antihypertensive medication was performed for the purpose of the intervention.

Blood Pressure Changes

Serial blood pressure measurements demonstrated lower systolic and diastolic blood pressure after each five-finger relaxation session compared with the corresponding pre-intervention measurements in both patients. Detailed measurements are presented in Table 2.

Table 2. Blood Pressure Before and After Five-Finger Relaxation During the Three-Day Case Management Period

Patient	Day	Before intervention (mmHg	After intervention (mmHg)	Δ SBP (mmHg)	Δ DBP (mmHg)
Patient 1	1	166/96	158/92	-8	-4
	2	162/94	156/90	-6	-4
	3	160/92	152/88	-8	-4
	Mean	162.7/94.0	155.3/90.0	-7.3	-4.0
Patient 1	1	172/98	164/94	-8	-4
	2	168/96	162/92	-6	-4
	3	166/94	158/90	-8	-4
	Mean	168.7/96.0	161.3/92.0	-7.3	-4.0

Note: Δ represents the post-intervention value minus the corresponding pre-intervention value. Negative values indicate a reduction in blood pressure.

Serial blood pressure measurements showed consistently lower post-intervention than pre-intervention values across all three sessions in both patients. The mean within-session reductions were 7.3 mmHg for systolic blood pressure and 4.0 mmHg for diastolic blood pressure in both cases. In addition, pre-intervention blood pressure demonstrated a downward pattern across the three-day case management period. These serial patterns are illustrated in Figure 1.

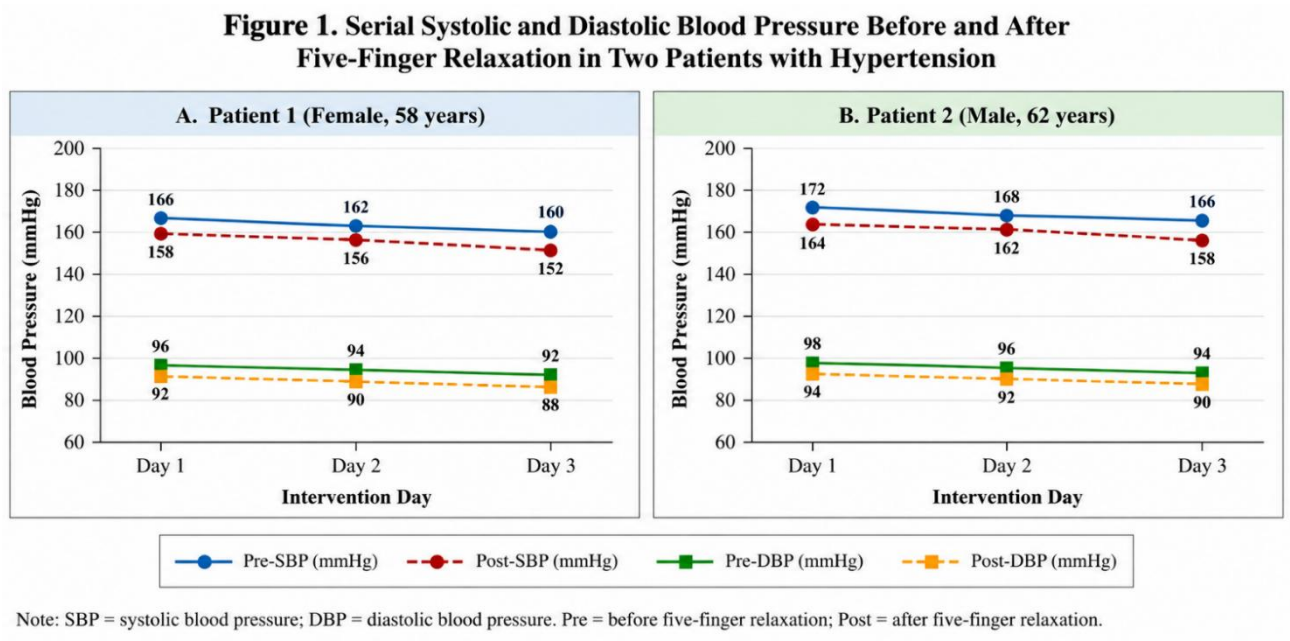


Figure 1. Serial Systolic and Diastolic Blood Pressure Before and After Five-Finger Relaxation in Two Patients with Hypertension

As illustrated in Figure 1, both cases demonstrated a consistent separation between pre- and post-intervention blood pressure values across all three sessions, together with a gradual downward pattern in serial measurements.

Clinical and Nursing Evaluation

Both patients demonstrated a consistent pattern of lower systolic and diastolic blood pressure following each five-finger relaxation session. Throughout the three-day case management period, both patients remained compos mentis, were able to communicate and follow the intervention

instructions, and showed no documented clinical deterioration.

Based on the predefined nursing evaluation indicators, the nursing goals were partially achieved, as both patients maintained their level of consciousness without worsening clinical complaints and demonstrated a downward pattern in blood pressure during the case management period.

Importantly, these observations occurred while both patients continued their prescribed antihypertensive therapy. Therefore, the observed blood pressure patterns were interpreted as clinical responses occurring during five-finger relaxation in conjunction with routine antihypertensive treatment, rather than as evidence of an independent effect of five-finger relaxation.

DISCUSSION

This multiple-case report documented a consistent pattern of lower systolic and diastolic blood pressure following each five-finger relaxation session in two patients with hypertension. Patient 1 demonstrated a mean within-session reduction of 7.3 mmHg in systolic blood pressure and 4.0 mmHg in diastolic blood pressure across three consecutive days. Patient 2 exhibited the same mean reductions. Pre-intervention blood pressure also showed a downward pattern during the observation period, decreasing from 166/96 mmHg to 160/92 mmHg in Patient 1 and from 172/98 mmHg to 166/94 mmHg in Patient 2. These findings describe short-term blood pressure patterns observed during the delivery of a complementary nursing intervention. However, the temporal association between relaxation sessions and lower blood pressure measurements does not establish a causal effect, particularly because both patients continued receiving antihypertensive medication and no comparison condition was included.[18]

Previous research on five-finger relaxation and related hypnotic techniques provides a potential psychological context for interpreting these observations. Prasetiya [19] reported improvements in anxiety following five-finger hypnosis among patients with hypertension, while Ardianto and Aghadiati [20] also examined the application of five-finger hypnosis in relation to anxiety outcomes. These findings suggest that five-finger techniques may be relevant to the management of psychological tension in clinical care. Nevertheless, improvements in anxiety cannot be assumed to produce equivalent changes in blood pressure. Furthermore, the present cases did not include standardized measurements of anxiety, perceived stress, or relaxation responses. Therefore, the relationship between psychological changes and the observed blood pressure patterns remains uncertain.

Broader evidence concerning relaxation and stress-management interventions provides additional context. Webster et al. [10], in a systematic review and network meta-analysis, examined the effects of non-pharmacological stress-management interventions on blood pressure. Their findings suggest that some relaxation-related approaches may be associated with short-term blood pressure reductions, although the certainty of evidence and methodological limitations require cautious interpretation. Importantly, evidence concerning breathing exercises, meditation, mindfulness, or progressive muscle relaxation cannot be directly generalized to five-finger relaxation because these interventions differ in their procedures, duration, and underlying components. Consequently, the present findings should be regarded as preliminary case-level observations rather than confirmation of the effectiveness of five-finger relaxation for hypertension management.[9]

A possible physiological explanation involves changes in stress-related autonomic activity. Psychological stress

may contribute to sympathetic nervous system activation, which can influence heart rate, vascular resistance, and blood pressure. Relaxation-based procedures are intended to reduce physiological arousal through focused attention, controlled breathing, and calming mental imagery. De Benedittis [10] discussed the potential involvement of autonomic nervous system regulation in hypnotic processes. Five-finger relaxation incorporates elements of focused attention, sequential finger movements or stimulation, and positive imagery that may facilitate a subjective state of calmness.[21] However, the present report did not assess heart rate variability, autonomic nervous system activity, or other physiological markers of relaxation. Accordingly, autonomic regulation remains a plausible explanatory hypothesis rather than a mechanism demonstrated by these cases.[22]

An important observation was the similarity of the within-session blood pressure changes between patients with different clinical characteristics. Patient 1 was a 58-year-old woman with a six-year history of hypertension who received amlodipine 5 mg daily, whereas Patient 2 was a 62-year-old man with an eight-year history of hypertension who received amlodipine 10 mg daily. Despite differences in age, sex, hypertension duration, and prescribed medication dose, both patients exhibited the same mean within-session blood pressure reductions. This similarity is noteworthy at the descriptive level but should not be interpreted as evidence of a reproducible treatment response. With only two cases, the findings cannot establish whether the observed patterns would occur in other patients or under different clinical circumstances.[23]

The timing of concurrent antihypertensive medication is particularly relevant to the interpretation of these observations. Both patients reportedly received their prescribed amlodipine at approximately 07:00, whereas relaxation sessions were conducted at approximately 10:00. Amlodipine is an established antihypertensive medication that contributes to blood pressure management.[24] Therefore, ongoing pharmacological treatment represents an important co-intervention. Although the measurements were obtained before and after relaxation sessions, the design cannot separate any contribution of the relaxation procedure from the effects of medication, seated rest, measurement timing, or spontaneous blood pressure variability. The gradual decline in pre-intervention blood pressure across the three observation days likewise cannot be interpreted as evidence of a sustained treatment effect.[8]

The measurement procedure also requires consideration. Blood pressure is influenced by posture, recent physical activity, emotional state, environmental conditions, and the duration of rest before measurement. In these cases, patients underwent a standardized relaxation session lasting approximately 15 minutes, followed by a seated resting period before post-intervention blood pressure measurement. The additional passage of time and rest may themselves have influenced the observed values. Although repeated measurements provide useful descriptive information, they do not eliminate measurement variability or establish that the relaxation intervention independently produced the observed differences. These factors highlight the importance of standardized blood pressure measurement and cautious interpretation of short-term changes.[25]

From a nursing perspective, the report illustrates the practical delivery of a brief, structured relaxation procedure alongside routine hypertension care. Both patients were able to follow the intervention instructions and completed the three-day observation period. The technique required limited equipment and was delivered within a relatively short period, suggesting that its implementation may be practicable

in selected primary healthcare encounters. Nevertheless, completion of the intervention by two patients does not establish broader feasibility, acceptability, adherence, or sustainability. These implementation outcomes would require systematic assessment in a larger and more diverse patient population.[26]

The observations also highlight the importance of maintaining an integrated approach to hypertension management. Nurses contribute to blood pressure assessment, medication-adherence education, lifestyle counseling, symptom monitoring, and patient self-management support. Five-finger relaxation may be explored as an additional nursing activity intended to promote comfort and relaxation, provided that it does not replace prescribed antihypertensive treatment or other evidence-based interventions. Its use should remain consistent with individual clinical assessment, patient preferences, and appropriate monitoring for symptoms requiring medical evaluation.[15]

This report has several descriptive strengths. Blood pressure values were documented separately for each patient across three consecutive days, and measurements were obtained before and after each relaxation session. The intervention duration and approximate administration times were reported, while the continued use of antihypertensive medication was explicitly acknowledged. These details allow readers to examine individual measurement patterns rather than relying exclusively on aggregated findings. The case-based presentation also supports transparent reporting of the clinical context in which the intervention was delivered.[27]

Several limitations must be acknowledged. First, the inclusion of only two patients substantially restricts the transferability of the observations. Second, the three-day observation period was too short to evaluate sustained blood pressure control or longer-term clinical outcomes. Third, the absence of a control condition prevents causal attribution of blood pressure changes to five-finger relaxation. Fourth, continued antihypertensive medication, seated rest, repeated measurements, and natural blood pressure variability were potential contributors to the observed changes.[28] Fifth, factors such as recent physical activity, caffeine consumption, dietary sodium intake, sleep quality, and emotional state were not comprehensively assessed or controlled. Sixth, the report did not include standardized psychological assessments or objective autonomic measurements, limiting interpretation of potential mechanisms. Finally, the cases were not followed over a sufficiently long period to determine whether similar patterns would persist outside the immediate intervention setting.[29]

Future research should examine five-finger relaxation using more rigorous designs, including appropriate comparison groups, larger samples, standardized intervention procedures, and longer follow-up periods.[30] Documentation of medication adherence, recent changes in antihypertensive treatment, measurement conditions, and relevant lifestyle factors would improve the interpretation of blood pressure outcomes.[31] Additional assessments of anxiety, perceived stress, heart rate, and heart rate variability may help clarify potential psychological and physiological pathways. Such investigations are necessary before conclusions can be drawn regarding the independent effectiveness, clinical significance, or sustained benefits of five-finger relaxation in patients with hypertension.

CONCLUSION

This multiple-case report documented consistently lower systolic and diastolic blood pressure measurements following three consecutive daily sessions of five-finger relaxation in two patients with hypertension receiving prescribed

antihypertensive therapy. Both patients demonstrated mean within-session reductions of 7.3 mmHg in systolic blood pressure and 4.0 mmHg in diastolic blood pressure. The intervention was completed as planned without documented clinical deterioration, providing preliminary case-level information regarding its implementation as a complementary nursing procedure. However, these short-term observations cannot establish an independent therapeutic effect, sustained blood pressure control, or generalizability beyond the two reported cases. Further controlled studies with larger samples, appropriate comparison conditions, and longer follow-up periods are required to evaluate the potential clinical contribution of five-finger relaxation to hypertension management.

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