

Exploring Perceived Effects of Foi Doa Exercise in Older Adults with Hypertension: A Descriptive Qualitative Study

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Abstract

Background: Hypertension is highly prevalent among older adults and remains a major contributor to cardiovascular morbidity. In addition to pharmacological treatment, culturally grounded physical activities are increasingly considered as complementary non-pharmacological approaches to enhance acceptability in community settings. Foi Doa exercise combines gentle body movements with traditional bamboo instrumental music from East Nusa Tenggara and is perceived to promote relaxation among older adults.

Objective: This study explored older adults' experiences and perceived effects of Foi Doa exercise as a complementary non-pharmacological approach to hypertension management.

Methods: A descriptive qualitative study with thematic content analysis was conducted. Older adults diagnosed with hypertension participated in Foi Doa exercise sessions once daily for three consecutive days. Data were collected through observation, semi-structured in-depth interviews, and descriptive-supportive blood pressure monitoring. Blood pressure data were used solely to contextualize participants' experiences, not to assess clinical effectiveness.

Results: Two community-dwelling older adults (n = 2) participated. Participants reported physical relaxation, emotional calmness, improved body comfort, and high acceptance of the exercise. Traditional music and slow, gentle movements enhanced enjoyment, motivation, and cultural familiarity. Blood pressure values remained stable throughout the intervention period.

Conclusion: Foi Doa exercise was perceived as a calming, culturally meaningful, and acceptable complementary activity among older adults with hypertension, supporting its potential role in community-based health promotion rather than as a primary therapeutic intervention.

Keywords

Exercise Therapy; Music Therapy; Hypertension; Aged; Qualitative Research

Introduction

Hypertension remains a major global public health problem and disproportionately affects older adults, contributing substantially to cardiovascular morbidity, functional decline, and premature mortality. Age-related physiological changes, including reduced arterial elasticity, impaired autonomic regulation, and decreased cardiovascular reserve, increase susceptibility to elevated blood pressure in later life.¹⁻³ Globally, more than 1.28 billion adults are living with hypertension, with prevalence rising sharply after the age of 60 years.⁴ In Indonesia, hypertension is one of the most prevalent non-communicable diseases among older adults, with national data indicating persistently high prevalence and suboptimal control, particularly in rural and eastern regions.^{5,6}

Management of hypertension in older adults relies primarily on pharmacological therapy; however, long-term medication use is frequently complicated by polypharmacy, adverse effects, and poor adherence.⁷ Consequently, international guidelines strongly recommend non-pharmacological strategies, such as regular physical activity, stress reduction, and lifestyle modification, as complementary approaches to pharmacological treatment.⁸ Exercise interventions for older adults should emphasize low intensity, safety, and enjoyment to support adherence and sustainability.⁹ In this context, culturally grounded physical activities have gained increasing attention because they may enhance emotional comfort, motivation, and long-term participation.¹⁰

Psychological stress and emotional dysregulation play an important role in hypertension through sustained sympathetic nervous system activation and impaired autonomic balance.¹¹ Evidence suggests that low-intensity physical activity combined with relaxation elements may support cardiovascular regulation indirectly by reducing stress and promoting parasympathetic activity.¹² Music-based interventions, in particular, have been associated with reduced anxiety, improved emotional regulation, and modulation of neuroendocrine and autonomic responses.¹³ However, findings regarding their direct effects on blood pressure remain inconsistent, especially in short-term interventions.¹⁴

Foi Doa exercise is a culturally grounded activity that integrates gentle body movements with traditional bamboo instrumental music from East Nusa Tenggara. Within local communities, traditional music is closely intertwined with daily life, social interaction, and emotional expression among older adults. Cultural familiarity may reduce resistance to structured exercise and foster a sense of safety, belonging, and enjoyment.^{15,16} Despite growing interest in culturally adapted non-pharmacological interventions, empirical evidence, particularly qualitative evidence, exploring older adults' experiences with traditional Indonesian music-based exercise remains scarce. Most existing studies focus on conventional exercise programs or generic music therapy, with limited attention to indigenous cultural practices and their experiential meaning.^{17,18}

Moreover, previous quantitative and quasi-experimental studies examining music-integrated exercise among hypertensive older adults in Indonesia have reported mixed or non-significant effects on blood pressure outcomes, suggesting that the primary contribution of such interventions may lie in acceptability, emotional well-being, and engagement rather than immediate physiological change.¹⁹ These findings highlight the need for qualitative approaches to understand how older adults perceive, experience, and make meaning of culturally grounded exercise interventions.

Therefore, this study aimed to explore older adults' experiences and perceived effects of Foi Doa exercise as a complementary non-pharmacological approach within community-based hypertension management. By adopting a descriptive qualitative design, this study seeks to address an important gap in the literature by elucidating the experiential value, cultural relevance, and acceptability of traditional music-based exercise among older adults, rather than evaluating clinical effectiveness.

Methods

This study employed a descriptive qualitative design with thematic content analysis to explore older adults' experiences and perceived effects of Foi Doa exercise as a complementary non-pharmacological approach to hypertension management. A qualitative descriptive approach was selected to capture participants' perspectives in their own words and to provide a comprehensive summary of experiences grounded in everyday language, without imposing interpretative theoretical frameworks or causal assumptions. This design was considered appropriate given the exploratory nature of the study and the limited existing evidence on traditional Indonesian music-based exercise.

All interviews and observations were conducted by the first author, a physiotherapy lecturer at STIKes St. Elisabeth Keuskupan Maumere with training and experience in qualitative and community-based research. The researcher had no prior therapeutic or personal relationship with the participants. Before data collection, participants were informed about the researcher's role and the objectives of the study to minimize potential power imbalance. The research team acknowledged that their professional background in physiotherapy could influence data interpretation; therefore, reflexivity was addressed through systematic bracketing of preconceptions in field notes and regular peer debriefing throughout the analytical process, in accordance with COREQ recommendations.

Participants were community-dwelling older adults aged 60 years and above who had been clinically diagnosed with hypertension and were physically able to engage in low-intensity exercise. Individuals with acute illness, severe mobility limitations, or cognitive impairment that could interfere with communication or participation were excluded. Purposive sampling was used to ensure alignment between participant characteristics and the study objectives. The sample size was guided by the principle of information power, whereby a relatively small number of participants was deemed sufficient due to the narrow study aim, specificity of the sample, and depth of data collection. Recruitment continued until thematic saturation was reached, defined as the point at which no new themes emerged from subsequent interviews.

The intervention consisted of Foi Doa exercise, a culturally grounded movement program accompanied by traditional bamboo instrumental music from East Nusa Tenggara. The exercise sessions were conducted once daily in the morning for three consecutive days. Each session lasted approximately 20–30 minutes and included a brief warm-up, slow and low-intensity movements involving the knees, hips, pelvis, and trunk, followed by a short cool-down period. The movements emphasized controlled breathing, smooth transitions, and relaxed posture. Exercise intensity was categorized as light, corresponding to a Borg Rating of Perceived Exertion (RPE) of 9–11. Sessions were facilitated by a trained health researcher, and movements were adapted to participants' physical capacities to ensure safety and comfort. Intervention fidelity was maintained through a standardized session structure and the use of an implementation checklist to document adherence to the protocol, consistent with the TiDiER checklist.

Data were collected through direct observation, descriptive-supportive blood pressure measurement, and semi-structured in-depth interviews. Observations focused on participants' engagement, physical responses, and emotional expressions during exercise sessions and were documented as field notes. Blood pressure was measured before and after each session following standardized recommendations from the American Heart Association. Participants rested for at least five minutes in a seated position, and measurements were obtained using a validated automatic sphygmomanometer with an appropriate cuff size. These measurements were recorded solely as contextual physiological information and were not intended to assess clinical effectiveness.

Face-to-face interviews were conducted in a familiar community setting (Posyandu Lansia), lasted approximately 30–45 minutes, and were audio-recorded with participants' consent. An interview guide was developed based on the study objectives and relevant literature, pilot-tested with an eligible older adult outside the final sample, and refined to ensure clarity and cultural appropriateness. Guiding questions explored participants' physical sensations, emotional responses to the music and movements, perceived differences compared with other activities, and their willingness to continue the exercise.

Interview recordings were transcribed verbatim and analyzed using thematic content analysis. The analytical process began with repeated reading of transcripts to achieve immersion in the data, followed by open coding to identify meaningful units. Codes were iteratively refined and organized into subthemes and overarching themes representing shared experiential patterns. Trustworthiness was strengthened through methodological triangulation across interviews, observations, and blood pressure records; peer debriefing within the research team; and maintenance of a detailed audit trail documenting analytical decisions. These strategies supported credibility, dependability, and confirmability of the findings.

The study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Formal ethical clearance was not required because the study involved only non-invasive procedures and was classified as minimal-risk research; however, an ethical exemption was obtained from STIKes St. Elisabeth Keuskupan Maumere. Written informed consent was obtained from all participants prior to data collection, and confidentiality and anonymity were strictly maintained throughout the research process.

Results

Participant Characteristics

Two community-dwelling older adults diagnosed with hypertension participated in this study. Participant characteristics are summarized in Table 1. Both participants were aged over 60 years and demonstrated sufficient functional ability to engage in low-intensity exercise without assistance. No participants withdrew during the study period.

Table 1. Characteristics of Participants (n = 2)

Participant	Age (years)	Sex	Hypertension Status	Functional Ability to Exercise
P1	65	Female	Diagnosed hypertension	Able without assistance
P2	68	Male	Diagnosed hypertension	Able without assistance

Blood Pressure Measurements

Blood pressure was measured before and after each Foi Doa exercise session over three consecutive days. As presented in Table 2, systolic and diastolic blood pressure values remained stable at 140/90 mmHg across all measurement points. These data

were collected as descriptive-supportive physiological information to contextualize participants' experiences and were not intended to evaluate clinical effectiveness or infer causal effects.

Table 2. Blood Pressure Measurements Across the Intervention Period

Day	Measurement Time	Systolic (mmHg)	Diastolic (mmHg)	Description
1	Pre-exercise	140	90	Baseline
	Post-exercise	140	90	Stable
2	Pre-exercise	140	90	Stable
	Post-exercise	140	90	Stable
3	Pre-exercise	140	90	Stable
	Post-exercise	140	90	Stable

Qualitative Findings

Thematic content analysis of interview transcripts and observational field notes yielded four main themes: physical relaxation, emotional calmness, exercise acceptance, and cultural familiarity. Representative participant quotations supporting each theme are presented in Table 3.

Table 3. Themes and Representative Quotations on Participants' Experiences of Foi Doa

Theme	Description	Representative Quotations
Physical Relaxation	Participants reported reduced muscle tension, improved bodily comfort, and absence of post-exercise soreness. The movements were perceived as slow, gentle, and physically tolerable.	"After doing the Foi Doa exercise, my body felt lighter, especially my legs and waist. I did not feel stiff like before." (P1, Female, 65 years) "The movements were slow and not tiring. My body felt comfortable and not sore after the exercise." (P2, Male, 68 years)
Emotional Calmness	Participants experienced relaxation, reduced mental tension, and greater emotional peace. Traditional music contributed to a calming atmosphere.	"When the music started, I felt calmer. My mind felt more peaceful and not tense." (P1) "The music made me feel relaxed. My thoughts felt quieter compared to before the exercise." (P2)
Exercise Acceptance	The exercise was perceived as safe, enjoyable, and appropriate for older adults. Participants expressed willingness to continue participating.	"I enjoyed this exercise because it was not heavy. I felt safe and not afraid of getting tired." (P1) "I liked it because the music made the exercise enjoyable, and I did not feel forced to move." (P2)
Cultural Familiarity	Traditional music enhanced comfort, engagement, and sense of cultural connection, reducing the perception of a clinical or hospital-based intervention.	"The music is familiar to us here. It feels like part of our daily life, not like a hospital exercise." (P1) "Because the music is traditional, I felt more comfortable joining. It feels closer to our culture." (P2)

Observational Findings

Observational data collected during the exercise sessions are summarized in Table 4. Participants consistently followed instructions, demonstrated relaxed facial expressions and body posture, and showed no signs of fatigue, dizziness, or discomfort. No adverse events were observed throughout the intervention period.

Table 4. Observational Findings During Foi Doa Exercise Sessions

Observation Domain	Description
Participant engagement	Consistent participation and attentiveness
Emotional expression	Relaxed facial expressions and calm posture
Physical tolerance	No fatigue, dizziness, or discomfort observed
Safety	No adverse events reported

Summary of Findings

Overall, the results indicate that Foi Doa exercise was experienced positively by participants, with stable blood pressure values observed across the short intervention period and qualitative findings highlighting physical comfort, emotional calmness, acceptance, and cultural relevance. Quantitative data were descriptive in nature and served to support, rather than explain, participants' reported experiences.

Discussion

This study explored older adults' experiences and perceived effects of Foi Doa exercise as a culturally grounded, complementary activity within community-based hypertension management. The findings are primarily experiential and exploratory, reflecting participants' subjective perceptions rather than clinical effectiveness. Overall, participants described the exercise as calming, comfortable, and acceptable, with traditional music and gentle movements playing a central role in shaping positive experiences. Blood pressure values remained stable during the short intervention period and were intentionally treated as descriptive-supportive data, in line with the qualitative design of the study.

Participants' reports of physical relaxation and improved body comfort align with existing evidence suggesting that low-intensity physical activity is well tolerated by older adults and may support musculoskeletal comfort without provoking fatigue or fear of injury.^{20,21} The slow tempo and non-strenuous nature of the movements likely contributed to participants' sense of safety and willingness to engage, which is particularly important given that fear of discomfort and exhaustion are common barriers to exercise participation among older adults with chronic conditions.²² The present findings suggest that Foi Doa exercise may reduce such barriers by offering a gentle and non-threatening form of physical activity embedded within familiar cultural practices.

Emotional calmness emerged as a prominent theme, with participants consistently attributing feelings of relaxation and reduced mental tension to the accompanying traditional music. Psychological stress is a well-recognized contributor to hypertension through sustained activation of the sympathetic nervous system and dysregulation of autonomic balance.²³ Evidence indicates that music-based interventions may modulate emotional and physiological stress responses by influencing neuroendocrine pathways and enhancing parasympathetic activity.^{13,24} Within this framework, the perceived emotional calmness reported by participants may represent an indirect pathway through which Foi Doa exercise supports cardiovascular well-being, without implying direct antihypertensive effects.

Importantly, blood pressure measurements remained unchanged across the three-day intervention period. This finding is consistent with previous studies reporting inconsistent or minimal short-term blood pressure changes following music-based or low-intensity exercise interventions.^{25,26} Such evidence suggests that the primary contribution of culturally adapted, music-integrated

exercise may lie in experiential, motivational, and psychosocial domains rather than immediate physiological outcomes. In this study, the stability of blood pressure values served to contextualize participants' experiences and reinforced the importance of interpreting physiological data cautiously within a qualitative framework.

Cultural familiarity was a key factor influencing exercise acceptance. Participants emphasized that traditional bamboo instrumental music felt familiar and closely connected to their daily lives, reducing the perceived distance between the activity and formal clinical exercise. Culturally congruent interventions have been shown to enhance emotional comfort, relevance, and sustained engagement among older adults, particularly in community settings.^{27,28} In the context of East Nusa Tenggara, where traditional music is deeply embedded in social interaction and collective identity, Foi Doa exercise may foster a sense of belonging and emotional safety that supports participation and adherence.

From an implementation perspective, the findings suggest that Foi Doa exercise is well suited for integration into Posyandu Lansia activities as a complementary, community-based program. Its simplicity, minimal equipment requirements, and cultural relevance allow it to be facilitated by community health workers following basic training. However, it is essential to emphasize that such interventions should complement, rather than replace, standard pharmacological and clinical management of hypertension. The present findings support the acceptability and feasibility of Foi Doa exercise, not its efficacy as a therapeutic intervention.

This study has several limitations that warrant consideration. The small sample size and short intervention duration limit transferability and preclude conclusions regarding long-term physiological effects. Participants' accounts were self-reported and may have been influenced by social desirability. Nevertheless, the study provides valuable qualitative insight into how older adults experience and interpret culturally grounded exercise, addressing a gap in the existing literature.

Future research should consider longer intervention periods, larger and more diverse samples, and mixed-methods designs to further explore the supportive role of culturally adapted exercise within comprehensive hypertension management. Such studies may help clarify how experiential benefits, emotional well-being, and sustained participation interact with longer-term cardiovascular outcomes while maintaining appropriate boundaries between qualitative insights and clinical claims.

Conclusion

This descriptive qualitative study explored older adults' experiences and perceived effects of Foi Doa exercise as a culturally grounded, complementary activity within community-based hypertension management. The findings indicate that Foi Doa exercise was perceived as calming, comfortable, and culturally meaningful by older adults with hypertension. Participants reported physical relaxation, emotional calmness, improved body comfort, and a high level of acceptance toward the exercise, which they attributed to the integration of gentle movements and familiar traditional bamboo instrumental music.

Blood pressure values remained stable during the three-day intervention period and were interpreted solely as descriptive-supportive physiological information. These observations do not indicate clinical effectiveness and should not be construed as evidence of blood pressure reduction or therapeutic impact. Rather, the findings emphasize the experiential and psychosocial value of the intervention, highlighting its role in enhancing comfort, emotional well-being, and willingness to engage in physical activity among older adults.

Taken together, the results suggest that Foi Doa exercise may serve as an acceptable and culturally relevant complementary activity that can be integrated into community-based programs such as Posyandu Lansia. Its potential contribution lies in supporting participation, emotional regulation, and adherence to healthy lifestyles, while standard pharmacological and clinical management of hypertension remains essential. Future research using longer intervention periods, larger samples, and mixed-methods designs is warranted to further examine the supportive role of culturally adapted exercise within comprehensive hypertension care.

Author Contribution

I Made Wahyu Palguna: Conceptualization; Methodology; Formal analysis; Writing—original draft.

Maria Kornelia Ringgi Kuwa: Methodology; Supervision; Writing—review & editing.

Maria Alexandra Wea: Data curation; Formal analysis; Writing—review & editing.

Maria Indriani Kanisa Meo: Data curation; Investigation; Field implementation.

All authors have read and approved the final manuscript and agree to be accountable for all aspects of the work.

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Conflict of Interest Statement

The authors declare no conflict of interest.

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Ethics Statement

This study was conducted in accordance with the ethical principles of the Declaration of Helsinki. The research protocol received an ethical exemption/waiver from STIKes St. Elisabeth Keuskupan Maumere, as the study involved only non-invasive procedures and was classified as minimal-risk research. Written informed consent was obtained from all participants prior to data collection, and confidentiality and anonymity were strictly maintained.

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