



Community Service Report

Evaluation of Hypertension Control Program Through Chayote Juice in Sunggumanai Hamlet, Parangloe

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ABSTRACT

Hypertension is a major non-communicable disease that requires continuous promotional and preventive efforts. One community-based intervention involved hypertension education accompanied by a demonstration of chayote (*Sechium edule*) juice preparation as a non-pharmacological approach. This study aimed to evaluate the sustainability of the program and identify factors influencing its implementation six months after the intervention. The evaluation was conducted as part of a Community-Based Learning Program using the Asset-Based Community Development (ABCD) approach. It involved 23 participants in Sunggumanai Hamlet, Belapunranga Village, Gowa Regency. Data were collected through structured interviews and analyzed descriptively. The results showed that 69.6% of respondents no longer consumed chayote juice, although 82.6% reported that it was easy to prepare independently. These findings indicate that ease of implementation alone is insufficient to ensure sustained adoption. Therefore, appropriate participant selection, continuous follow-up, and stronger family involvement are needed to improve the sustainability of community-based health promotion programs.

1. Introduction

Hypertension is known as the silent killer or hidden killer because it often does not cause typical signs and symptoms, so many sufferers do not realize that they have hypertension until serious complications such as stroke, coronary heart disease, or kidney failure arise. (Mrwah et al., 2022). To date, hypertension remains a public health problem with a steadily increasing prevalence in various countries. The World Health Organization (WHO) reports that the prevalence of hypertension in 2023 will reach approximately 33% of the global population, with approximately two-thirds of sufferers living in developing countries. (Ardiansyah & Widowati, 2024). In Indonesia, based on data

from the Ministry of Health of the Republic of Indonesia in 2023 quoted by Manongga et al. (2024), the prevalence of hypertension reached 34.1%, so that hypertension remains one of the main challenges in efforts to improve public health.

At the regional level, the South Sulawesi Provincial Health Office reported that hypertension cases remain relatively high. In 2020, Makassar City recorded the highest number of cases, with 290,247, followed by Bone Regency with 158,516 cases, Gowa Regency with 157,221 cases, and Barru Regency with the lowest number of cases, with 1,500 cases. (Susanti et al., 2022) The high incidence of hypertension indicates that hypertension control efforts still need to be a priority, including for people living in rural areas.

This condition was also found in the Parangloe Community Health Center (Puskesmas) work area. According to 2024 data from the Parangloe Community Health Center, hypertension is among the ten most common diseases. Initial observations in Sunggumanai Hamlet, Belapunranga Village, Parangloe District, Gowa Regency, showed that of the 189 residents interviewed, 43 had been diagnosed with hypertension. In addition to the high number of sufferers, the community still has limited information about non-pharmacological hypertension management and tends to utilize pharmacological therapies and herbal remedies, which have long been used in everyday life.

As an effort to control hypertension, a previous Field Learning Experience (PBL) program included an outreach and education program on the use of chayote juice as an alternative non-pharmacological therapy to help control blood pressure. Chayote (*Sechium edule*) contains various bioactive compounds, such as alkaloids, saponins, cardenolin/bufadienol, and flavonoids, which can help lower blood pressure. (Murwati & Ambarwati, 2021) The choice of chayote was based on the ease of obtaining the ingredients, the simple processing process, and its potential benefits in helping lower blood pressure. According to research by Septiana & Juwariyah, (2021) stated that giving chayote juice has been proven to lower blood pressure in the elderly. This is also in line with research Shintia et al. (2025) which shows that there is a change in blood pressure after consuming boiled chayote.

However, based on the results of the post-intervention evaluation, the program implementation has not achieved the expected outcomes, requiring further evaluation to identify various factors influencing program implementation in the community. The evaluation results indicate that the program's suboptimal implementation is influenced by several factors. Internally, the targeting of interventions in previous activities was not fully focused on hypertension sufferers, resulting in a less than optimal evaluation of the program's effectiveness. Some participants who attended the counseling were not hypertension sufferers and therefore did not consume chayote juice during the evaluation period. Externally, some people with hypertension already have a habit of using other therapies, either in the form of antihypertensive drugs prescribed by health professionals or traditional remedies such as bay leaf decoction and other herbal concoctions that have been trusted for generations. This condition indicates that although chayote juice is easy to make and the raw materials are readily available, this convenience does not necessarily translate into community acceptance and implementation if the intervention provided does not fully align with their needs, habits, and existing treatment preferences.

Therefore, this community service activity aims to evaluate the implementation of the education program on the use of chayote juice as a non-pharmacological effort in controlling hypertension in Sunggumanai Hamlet, Belapunranga Village, Parangloe District, Gowa Regency, and to identify factors that influence the implementation of the program by the community as a basis for improving the implementation of the community service program in the future.

2. Method

This research is the evaluation phase of a series of Field Learning Experience (PBL) programs implemented using the Asset-Based Community Development (ABCD) approach. The ABCD approach was used in the problem identification and community potential mapping phases as the basis for developing a hypertension education program and demonstrating the production of chayote juice as a non-pharmacological effort to control hypertension. This article focuses on the evaluation phase conducted six months after the intervention to assess the sustainability of the program's implementation by the community.

The evaluation was conducted in April 2026 in Sunggumanai Hamlet, Belapunranga Village, Parangloe District, Gowa Regency. The program targeted 23 community members who had previously participated in the chayote juice education and demonstration program. These included housewives, health workers, and members of the religious study group (Majelis Taklim).

Data collection was conducted through interviews using a structured questionnaire developed based on the evaluation objectives. Data collected included the sustainability of chayote juice consumption, the ease of making the juice independently, family members' involvement in consuming the juice, and supporting information regarding the respondents' health conditions. Data were analyzed descriptively using frequency distributions and percentages, then presented in tabular form to illustrate the level of program sustainability and the factors influencing its implementation.

3. Results & Discussion

The evaluation activity was attended by 23 respondents who previously participated in an education and demonstration program on the use of chayote juice as a non-pharmacological effort in controlling hypertension.

Table 1. *Example of table organization*

Characteristics	N (23)	Percentage (100%)
Age		
20-29	6	26.1%
30-39	8	34.4%
40-49	4	17.4%
50-59	2	8.7%
=>60	3	13.0%
Gender		
Man	0	0%
Woman	23	100%

Table 1 shows that the number of respondents in the study was 23 people, with the largest age group being in the 30–39 year range, namely 8 people (34.4%), followed by 20–29 year olds with 6 people (26.1%). The 40–49 year old group had 4 people (17.4%), the ≥60 year old group had 3 people (13.0%), and the 50–59 year old group had the least, namely 2 people (8.7%).

All respondents were female because the target group of the activity was housewives, health cadres, and members of religious study groups who participated in the previous program. The respondents were selected because mothers are considered a strategic group in disseminating and implementing health information within the family.(Kurniasari et al., 2022). Mothers' groups also have very active informal social networks, both in their local communities and in instant messaging groups. This dual role makes them a very strategic vanguard.(Siagian et al., 2026).

Table 2. *Distribution of Juice Consumption Frequency in the Last 6 Months*

Variable	N (23)	Percentage (100%)
Easy to make juice		
Yes, it's easy.	19	82.6%
No	4	17.4%
Juice Consumption		
Drinking Juice	7	30.4%
Don't Drink Juice	16	69.6%
Frequency of Juice Consumption		
1-2x in 6 months	2	8.7%
3-5x in 6 months	4	17.4%
>5x in 5 months	1	4.3%
Never	16	69.6%

Table 2 shows that the majority of respondents did not consume juice in the past six months (69.6%), while 30.4% (7 people) did. This pattern indicates that juice is not a regular part of the drinking habits of most of the sample. Among those who consumed juice, the highest frequency was 3–5 times in 6 months (17.4%), followed by 1–2 times (8.7%) and >5 times (4.3%). However, 82.6% of respondents stated that making chayote juice is easy to do independently at home. This condition indicates that the ease of preparing juice does not necessarily lead to continued regular consumption. This condition indicates that the educational activities and demonstrations that have been carried out have not been fully able to form sustainable behavior change.

One factor suspected of contributing to the low consumption of chayote juice is the characteristics of the target population during the initial stages of program implementation. In previous activities, participants were not specifically selected from groups with hypertension, so it is possible that some respondents did not have an immediate need to consume chayote juice as part of their blood pressure management. This condition is suspected of influencing the adoption rate and sustainability of the intervention after the program's completion. This aligns with the concept of program implementation, which states that the success of an intervention is influenced by the appropriateness of the intervention, the characteristics of the target population, and the context in which it is implemented.(Schloemer et al., 2021). Target accuracy (reach) is an important component that determines the level of adoption and sustainability of a health program.(Reilly et al., 2020)

Furthermore, the long-standing habit of consuming boiled bay leaves as an alternative way to control blood pressure also contributes to the low interest in chayote juice. Nurtanti & Sulistiyoningsi (2022) Hypertension sufferers prefer non-pharmacological therapies such as drinking boiled bay leaves because long-term use of chemical medications can cause side effects, is expensive, and requires lifelong consumption. Furthermore, bay leaves are a practical choice because they are a plant commonly used in traditional Indonesian cuisine. On the other hand, some people also prefer medical medications because they are considered more practical and have a faster-acting effect. According to Rusli et al. (2021), the majority of people tend to choose to buy and consume synthetic (medical) drugs compared to traditional medicines because medical drugs are considered more effective in treating diseases and more practical to use.



Figure 1. *Interview Process Documentation*

People's decisions to purchase medical drugs are strongly influenced by social factors such as general local customs and family influence, psychological factors related to satisfaction and hope for recovery, and economic factors related to their income. These conditions indicate that people's acceptance of an intervention is strongly influenced by their habits, preferences, and previous experiences. Therefore, the program's suboptimal implementation is influenced not only by implementation factors but also by respondents' acceptance of the intervention.

Community acceptance of a health intervention is heavily influenced by habit, as daily behavior patterns are often deeply rooted in traditions, local culture, and social values passed down through generations. These deeply rooted cultural values and traditions create resistance or challenges, leading to groups being slower or reluctant to adopt new health interventions or technologies that are perceived as inconsistent with established practices within their communities. (Hidayat et al., 2024).

4. Conclusion

The hypertension education program and chayote juice-making demonstration provided the community with initial knowledge and practical skills to implement non-pharmacological approaches to hypertension control. This evaluation successfully assessed the sustainability of the program's implementation and identified factors influencing its sustainability six months after the intervention. Findings indicated that although the intervention was considered easy to implement, its sustainability had not yet been fully achieved. This suggests that the long-term success of community-based health programs depends not only on the simplicity of the intervention but also on its targeting accuracy, community acceptance, family support, and community health habits. Therefore, the results of this evaluation emphasize the importance of combining educational activities with strategies that can encourage sustainable behavior change after the community service program has concluded.

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