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# DESCRIPTION OF THE LEVEL OF KNOWLEDGE ABOUT BLOOD PRESSURE REDUCTION IN HYPERTENSION PATIENTS AT THE POSBINDU IN PRANTI VILLAGE, SIDARJO

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**ABSTRACT**

Hypertension is a non-communicable disease known as a "silent killer" because it often presents no symptoms yet carries the risk of serious complications if not properly controlled. A key factor in hypertension control is the patient's level of knowledge regarding blood pressure reduction through lifestyle changes and treatment adherence. This study aimed to assess the level of knowledge concerning blood pressure reduction efforts among hypertensive patients at the Posbindu (Integrated Non-Communicable Disease Post) in Pranti Village, Sidoarjo. A descriptive study design with a cross-sectional approach was employed. The study population consisted of 70 individuals, with a sample of 42 respondents selected via purposive sampling. Data were collected using a questionnaire and analyzed using univariate analysis. The results showed that the majority of respondents were aged ≥60 years (52.4%), female (83.3%), had an elementary school education (45.2%), and had suffered from hypertension for less than 5 years (57.1%). Regarding knowledge of blood pressure reduction efforts, the largest proportion of respondents fell into the "poor" category (42.9%), followed by "fair" (31.0%) and "good" (26.2%). The findings indicate that most hypertensive patients still possess insufficient knowledge about lowering blood pressure, particularly regarding lifestyle modifications and self-management of the condition. In conclusion, the knowledge level of hypertensive patients at the Pranti Village Posbindu remains low. Therefore, more intensive and sustainable health education—tailored to the patients' characteristics—is required to improve knowledge and encourage the adoption of healthy behaviors for blood pressure control.

**Keywords:** Hypertension, knowledge, efforts to lower blood pressure, Posbindu

## INTRODUCTION

Hypertension is a condition in which blood pressure increases abnormally and persists over time across several measurements. This condition occurs due to one or more risk factors that do not function properly in maintaining blood pressure within the normal range (Wulandari et al., 2023). A person is considered to have hypertension when their systolic blood pressure is ≥140 mmHg and/or their diastolic blood pressure is ≥90 mmHg, based on two measurements taken at different times. Hypertension is one of the major risk factors for cardiovascular disease, stroke, heart failure, and kidney disorders. Various factors, such as excessive salt intake, lack of physical activity, obesity, smoking habits, alcohol consumption, and hereditary factors, contribute to the increasing incidence of hypertension (Pawitra et al., 2024).

According to the *World Health Organization* (WHO), the prevalence of hypertension worldwide is approximately 22% of the adult population, while the Southeast Asian region has a prevalence of 25%. In Indonesia, the prevalence of hypertension based on Riset Kesehatan Dasar (2023) Reaching 34.11%**,** this figure shows an increase compared to previous years. The high prevalence of hypertension indicates that this disease remains a public health problem

requiring serious attention, as it contributes to increased morbidity and mortality, as well as various complications that can reduce the quality of life of the community. In Sidoarjo Regency, according to the Dinas Kesehatan Kabupaten Sidoarjo In 2024, a total of 549,492 people were recorded as suffering from hypertension. Based on a survey conducted in Pranti Village on November 29, 2025, among 70 elderly individuals who participated in Posbindu activities, 45 were found to have hypertension. These data indicate that hypertension remains a significant health problem in the community, highlighting the need for more optimal prevention and control efforts.

Prevention and control of hypertension can be achieved through lifestyle modifications, such as reducing salt intake, increasing physical activity, maintaining an ideal body weight, quitting smoking, limiting alcohol consumption, and having regular blood pressure check-ups. One of the factors influencing the success of these efforts is the level of public knowledge about hypertension. Adequate knowledge can encourage people to adopt healthy lifestyle behaviors, carry out early detection, and adhere to treatment, thereby enabling blood pressure to be controlled and minimizing the risk of complications (Purwono et al., 2020; Widyasari & Candrasari, 2017). Early detection through regular blood pressure checks is a simple, easy-to-perform, and effective measure for identifying hypertension at an early stage. However, many people still do not have their blood pressure checked regularly due to a lack of knowledge and awareness regarding the importance of early detection. This condition can lead to delayed diagnosis and increase the risk of hypertension-related complications (Patandianan, 2023).

Several previous studies have shown that the level of knowledge regarding hypertension varies. Joni (2021) reported that most older adults had a low level of knowledge about hypertension, whereas Putri et al. (2023) found that the majority of elderly people have a low level of knowledge and efforts to prevent recurrence of hypertension. In line with Justinho Soares et al. (2021) shows that the level of knowledge of hypertension sufferers is mostly in the sufficient category. In contrast to these results, Sinurat et al. (2024) and showed that the majority of respondents had a good level of knowledge. The differences in the findings of these studies indicate that the level of public knowledge may be influenced by the characteristics of the respondents as well as the research setting. However, studies specifically describing the level of public knowledge regarding hypertension at the Posbindu level in Pranti Village, Sidoarjo, remain limited. Therefore, this study was conducted to provide an overview of the level of public knowledge about hypertension in Pranti Village as a basis for developing more targeted promotive and preventive programs to increase public awareness of hypertension prevention and control.

## METHODE

This study used a quantitative descriptive design with a cross-sectional approach. The study was conducted at the Posbindu in Pranti Village, Sidoarjo, from January to May 2026. The population in this study consisted of all older adults who attended and participated in Posbindu activities in Pranti Village, totaling 70 individuals. The sample consisted of 42 respondents who were selected using a purposive sampling technique based on the predetermined inclusion and exclusion criteria.

Data collection was conducted using a questionnaire measuring the respondents' level of knowledge regarding efforts to lower blood pressure in patients with hypertension. In addition, blood pressure measurements were performed using a sphygmomanometer to determine the respondents' blood pressure categories, including hypotension, normal blood pressure, prehypertension, stage 1 hypertension, and stage 2 hypertension.

The collected data were then processed through editing, coding, data entry, and tabulation. Data analysis was performed using univariate analysis to describe the characteristics of the respondents based on age, sex, educational level, and duration of hypertension, as well as to describe the respondents' level of knowledge regarding efforts to lower blood pressure. The results of the analysis were presented in the form of frequency distributions and percentages.

## RESULTS

Table 1. Characteristics of Respondents in Pranti Village, Sidoarjo, February 2026

| General Information | Frequency *(f)* | Percent (%) |
|---|---|---|
| **Age** | | |
| <60 age | 20 | 47,6% |
| ≥60 age | 22 | 52,4% |
| **Gender** | | |
| Male | 7 | 16,7% |
| Female | 35 | 83,3% |
| **Educational level** | | |
| SD | 19 | 45,2% |
| SMP | 14 | 33,3% |
| SMA | 9 | 21,4% |
| **Duration of hypertension** | | |
| <5 age | 24 | 57,1% |
| >5 age | 18 | 42,9% |

This study was conducted among 42 patients with hypertension in Pranti Village, Sidoarjo**.** Based on the characteristics of the respondents, the majority were aged ≥60 years, comprising 22 respondents (52.4%)**.** Most respondents were

female, totaling 35 respondents (83.3%), had completed elementary school (SD) as their highest level of education, totaling 19 respondents (45.2%), and most had been suffering from hypertension for less than five years, totaling 24 respondents (57.1%).

Table 2. Knowledge Level of Hypertensive Patients at Posbindu, Pranti Village, Sidoarjo, February 2026

| Knowledge | Frequency (*f*) | Percent (%) |
|---|---|---|
| Good | 11 | 26,2% |
| Fair | 13 | 31,0% |
| Poor | 18 | 42,9% |
| Total | 42 | 100% |

(Source : Primary Data, 2026)

Found that the majority of respondents had a poor level of knowledge regarding efforts to lower blood pressure, with 18 respondents (42.9%) falling into this category. Meanwhile, 13 respondents (31.0%) had a moderate level of knowledge, while 11 respondents (26.2%) had a good level of knowledge. These results indicate that, of the 42 respondents studied, the majority still had insufficient knowledge about efforts to lower blood pressure. Therefore, more optimal educational efforts are needed to improve the understanding of individuals with hypertension in controlling blood pressure and preventing complications.

Table 3. Knowledge Level Based on Age at Posbindu, Pranti Village, Sidoarjo, February 2026

| | Level of Knowledge | | | |
|---|---|---|---|---|
| Age (Year) | Good | Fair | Poor | Total |
| <60 | 7 (35,0%) | 11 (55,0%) | 2 (10,0%) | 20 (100%) |
| ≥60 | 4 (18,2%) | 2 (9,1%) | 16 (72,7%) | 22 (100%) |
| Total | 11 (26,2%) | 13 (31,0%) | 18 (42,9%) | 42 (100%) |

(Source : Primary Data, 2026)

Based on the results of the study, respondents aged ≥60 years constituted the largest age group, with a total of 22 respondents. The ≥60-year-old group was predominantly categorized as having poor knowledge (72.7%), while respondents aged <60 years were more likely to have moderate (55.0%) and good (35.0%) levels of knowledge. The results indicate that poor knowledge was more prevalent among respondents aged ≥60 years, whereas its proportion was lower among respondents aged <60 years.

Table 4. Knowledge Level Based on Gender at Posbindu, Pranti Village, Sidoarjo, February 2026

| | Level of Knowledge | | | |
|---|---|---|---|---|
| Gender | Good | Fair | Poor | Total |
| Male | 1 (14,3%) | 3 (42,9%) | 3 (42,9%) | 7 (100%) |
| Female | 10 (28,6%) | 10 (28,6%) | 15 (42,9%) | 3 (100%) |
| Total | 11 (26,2%) | 13 (31,0%) | 18 (42,9%) | 42 (100%) |

(Source : Primary Data, 2026)

Based on the results of the study, it was found that the majority of respondents were female, comprising the largest group with a total of 35 respondents. Among female respondents, poor knowledge was predominant (42.9%), while among male respondents, moderate and poor levels of knowledge had the same proportion, each at 42.9%. These findings indicate that poor knowledge remained predominant in both gender groups.

Table 5. Knowledge Level Based on Educational Level at Posbindu, Pranti Village, Sidoarjo, February 2026

| | Level of Knowledge | | | |
|---|---|---|---|---|
| Education Level | Good | Fair | Poor | Total |
| SD | 1 (5,3%) | 2 (10,5%) | 16 (84,2%) | 19 (100%) |
| SMP | 3 (21,4%) | 9 (64,3%) | 2 (14,3%) | 14 (100%) |
| SMA | 7 (77,8%) | 2 (22,2%) | 0 (0,0%) | 9 (100%) |
| Total | 11 (26,2%) | 13 (31,0%) | 18(42,9%) | 42 (100%) |

(Source : Primary Data, 2026)

Based on the results of the study, respondents with an elementary school (SD) education level constituted the largest group, with a total of 19 respondents. The poor knowledge category was predominantly found among 16 respondents (84.2%), while among respondents with a junior high school (SMP) education level, 9 respondents (64.3%) had a moderate level of knowledge. Meanwhile, respondents with a senior high school (SMA) education level were predominantly categorized as having good knowledge, with 7 respondents (77.8%). These findings indicate that higher educational attainment is associated with better knowledge among respondents regarding hypertension.

Table 6. Knowledge Level Based on Duration of Hypertension at Posbindu, Pranti Village, Sidoarjo, February 2026

| | Level of Knowledge | | | |
|---|---|---|---|---|
| Duration of Hypertensionta | Good | Fair | Poor | Total |
| <5 year | 7 (29,2%) | 11 (45,8%) | 6 (25,0%) | 24 (100%) |
| >5 year | 4 (22,2%) | 2 (11,1%) | 12 (66,7%) | 18 (100%) |
| Total | 11 (26,2%) | 13 (31,0%) | 18 (42,9%) | 42 (100%) |

(Source : Primary Data, 2026)

Based on the results of the study, it was found that the majority of respondents had been suffering from hypertension for less than 5 years, constituting the largest group with a total of 24 respondents. Among them, the majority had a moderate level of knowledge, with 11 respondents (45.8%). Meanwhile, 18 respondents had been suffering from hypertension for more than 5 years, with the majority having a poor level of knowledge (66.7%). The distribution of the study results indicates that the poor knowledge category was more predominant among respondents who had been suffering from hypertension for more than 5 years.

## DISCUSSION

The characteristics of patients with hypertension in this study showed that the majority of respondents were aged ≥60 years, totaling 22 respondents (52.45%), were female, totaling 35 respondents (83.3%), had elementary school (SD) as

their highest level of education, totaling 19 respondents (45.2%), and had been suffering from hypertension for less than 5 years, totaling 24 respondents (57.1%). These characteristics indicate that age, gender, educational level, and duration of hypertension are factors that may influence the health conditions of patients with hypertension, as well as their ability to understand and implement efforts to control blood pressure. According to Intan Nilawati, Kasron (2023) which states that age, gender, educational level, and disease duration are associated with hypertension. Increasing age and decreased estrogen levels after menopause increase the risk of hypertension, while a low level of education may limit understanding of hypertension management. In addition, a longer duration of hypertension increases the risk of complications. Therefore, health education should be tailored to the characteristics of patients, using simple language and involving family members to support optimal hypertension management.

The results of the study showed that the majority of patients with hypertension who had a poor level of knowledge were in the ≥60 years age group, totaling 16 respondents (72.7%). This condition indicates that increasing age may reduce the ability to receive and understand health information due to a decline in cognitive function. This finding is supported by Nuraeni (2022) which states that the aging process causes physiological changes in the cardiovascular system, thereby increasing the risk of hypertension. The results of this study are also consistent with the findings of Advina Putri, Fidiariani Sjaaf, Febianne Eldrian (2023) which showed that patients with hypertension were still predominantly characterized by a poor level of knowledge. This condition highlights the need to improve health education tailored to the characteristics of older adults, using simple language, easy-to-understand educational media, and family involvement to support hypertension control and improve adherence to regular blood pressure monitoring.

The results of the study showed that female respondents had a higher proportion of poor knowledge, with 15 respondents (42.9%), compared with 3 male respondents (42.9%). This finding is also supported by Lestari et al. (2020) who stated that postmenopausal women have a higher risk of hypertension due to decreased estrogen levels, which play a role in maintaining blood vessel elasticity. Therefore, Posbindu should improve accessible health education for women through simple media, such as leaflets and posters, while strengthening the roles of health cadres and families in supporting hypertension control and improving patients' knowledge.

Based on educational level, the majority of respondents with a poor level of knowledge had an elementary school (SD) education, totaling 16 respondents (84.2%). This condition indicates that a lower level of education may affect an individual's ability to understand health information. This finding is consistent with Advina Putri, Fidiariani Sjaaf, Febianne Eldrian (2023)**,** as well as Sinurat dan Murni Sari Dewi Simanullang (2024) who stated that educational level plays an important role in shaping an individual's knowledge and understanding of hypertension. Therefore, Posbindu should provide health education using simple language and easy-to-understand media, delivered repeatedly, to improve the knowledge of patients with hypertension**.**

Based on the duration of hypertension, the majority of respondents with a poor level of knowledge were those who had been suffering from hypertension for more than 5 years, totaling 12 respondents (66.7%). This finding is consistent with Aghata Viki Yubiliyani, Mi Ekatrina Wijayanti (2024) who found that patients with hypertension were still predominantly characterized by a poor level of knowledge**.** Zainab (2025) also stated that the duration of hypertension is associated with hypertension management behaviors, in which experience during treatment needs to be supported by health education to improve blood pressure control. Therefore, Posbindu should provide continuous health education and involve family members to support treatment adherence and blood pressure control.

The results of the study showed that the majority of patients with hypertension had a poor level of knowledge, with 18 respondents (42.9%) falling into this category. This condition indicates that most respondents did not yet have an optimal understanding of blood pressure control measures, such as limiting salt intake, engaging in regular physical activity, maintaining an ideal body weight, adhering to antihypertensive therapy, and monitoring blood pressure regularly. These findings are consistent with Advina Putri, Fidiariani Sjaaf, Febianne Eldrian (2023), as well as Yestiani Norita Joni (2021) who reported that the knowledge levels of patients with hypertension were still predominantly categorized as poor. According to Notoatmodjo (2010) knowledge is influenced by age, education, experience, and the environment. In this study, the low level of knowledge was thought to be associated with the majority of respondents having a basic level of education and receiving insufficient continuous health education, resulting in a suboptimal understanding of hypertension management.

## CONCLUSION AND SUGGESTION

### Conclusion

Based on the results of the study on the description of the level of knowledge regarding efforts to lower blood pressure at Posbindu, Pranti Village, Sidoarjo, it can be concluded that:

1. The knowledge level of patients with hypertension based on their characteristics was predominantly categorized as poor. Most respondents with a poor level of knowledge were aged ≥60 years, were female, had an elementary school (SD) education, and had been suffering from hypertension for more than 5 years.
2. The poor knowledge category was predominant among patients with hypertension at Posbindu, Pranti Village, Sidoarjo.

**Suggestion**

1. For the Community
   The community is expected to improve their knowledge of efforts to lower blood pressure through health education and information provided by healthcare professionals. In addition, adopting a healthy lifestyle by reducing salt intake, engaging in regular physical activity, and monitoring blood pressure regularly is recommended to maintain blood pressure within a controlled range
2. For Healtcare Professionals
   It is expected that health education efforts for the community can be improved regarding ways to lower blood pressure through regular and easy-to-understand health education sessions. In addition, healthcare professionals should optimize regular blood pressure screening and monitoring activities, as well as provide motivation to encourage the community to consistently adopt a healthy lifestyle.
3. For Future Researchers
   To develop further research by adding other variables related to self-management of blood pressure control**,** involving a larger sample size, and applying more diverse research methods to obtain more comprehensive findings.

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