



SOCIODEMOGRAPHIC CHARACTERISTICS OF HYPERTENSION PATIENTS AS A BASIS FOR HEALTH PROMOTION MEDIA PLANNING: A STUDY AT BAMBANGLIPURO COMMUNITY HEALTH CENTER

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ABSTRACT	Keywords
Hypertension is a major public health issue requiring continuous control efforts through health promotion at the primary healthcare level. The effectiveness of interventions is heavily influenced by the alignment of communication strategies and media with the target audience's characteristics. This study aimed to analyze the sociodemographic characteristics of hypertension patients as a basis for planning health promotion media at Bambanglipuro Community Health Center. A cross-sectional quantitative descriptive design was used. The sample consisted of 100 patients selected through purposive sampling. Variables analyzed included gender, age, marital status, education level, occupation, monthly income, family history, comorbidities, and health insurance ownership. Data were analyzed using descriptive statistics and the Chi-Square test. The majority of hypertension patients were female (74.0%) and dominated by the elderly group aged ≥ 60 years (79.0%). Most respondents had a low level of education (67.0%), reported a monthly income of IDR 2,000,000 or less (90.0%), and worked in the informal sector. The Chi-Square test showed a statistically significant difference in education level proportions between the elderly and adult groups ($\chi^2 = 4.735$, $df = 1$, $p\text{-value} = 0.029$, Cramer's $V = 0.243$). All respondents had a family history of hypertension, and 94.0% owned health insurance. These sociodemographic characteristics indicate that health promotion targets at this health center may benefit from a simple visual communication approach and active family involvement. However, as health literacy and media preferences were not directly measured, these proposed strategies serve as informed hypotheses. Future studies should directly evaluate patients' health literacy and communication preferences before the large-scale implementation of tailored educational media.	Hypertension, Sociodemographics, Health Promotion, Media, Primary Healthcare

INTRODUCTION

Hypertension remains a major public health problem globally and in Indonesia, contributing significantly to cardiovascular diseases and premature death. Based on the 2023 Indonesian Health Survey (SKI), the prevalence of hypertension in the population aged ≥ 18 years reached 30.8% (Kemenkes RI, 2023). This high disease burden emphasizes the critical need to strengthen health education and communication at the primary healthcare level to improve disease management, patient compliance, and continuous blood pressure control.

In the context of primary health services, health promotion plays an essential role in encouraging behavior change and increasing patients' ability to manage their condition independently. However, the effectiveness of these interventions is heavily dependent on the appropriateness of the communication strategies (Parvanta & Bass, 2019; Schiavo, 2013). The principles of health program planning emphasize the importance of comprehensive audience assessment before determining educational materials and media (Green et al., 2022). Sociodemographic characteristics, such as age, gender, education level, and socioeconomic status, profoundly influence how individuals access, process, and comprehend health information. Therefore, tailoring media planning to the specific characteristics and cognitive readiness of the target audience is crucial to prevent information gaps and ensure message comprehension (M. Faber et al., 2023).

Although patient sociodemographic characteristics are recognized as important determinants of health communication, limited evidence has specifically mapped these characteristics to guide health promotion media planning at the primary healthcare level in Indonesia. In the Bambanglipuro Community Health Center

working area, educational efforts for hypertension have been conducted but lack a solid foundation based on the specific sociodemographic profiles of the targeted patients. Understanding this profile is an absolutely necessary first step in designing relevant, accessible, and effective educational media. Therefore, this study aims to analyze the sociodemographic characteristics of hypertension patients to provide an evidence-based foundation for planning targeted health promotion media at the Bambanglipuro Community Health Center.

METHOD

This research utilized a cross-sectional quantitative descriptive design with exploratory comparative analysis. This design was chosen not only to describe the sociodemographic profile of hypertension patients but also to statistically compare educational literacy across age groups, which is crucial for health promotion media planning. The study was conducted at the Bambanglipuro Community Health Center, Bantul Regency, Special Region of Yogyakarta, Indonesia.

The population comprised all registered hypertension patients receiving care at the health center. A purposive sampling technique was employed to select 100 respondents. This non-probability sampling method was specifically chosen to ensure the selected sample met strict clinical and administrative criteria. The inclusion criteria were: (1) patients formally diagnosed with hypertension, and (2) availability of complete sociodemographic and clinical data in their medical records. Patients with incomplete records were excluded to manage missing data and prevent analysis bias.

To ensure clarity, the variables were operationally defined and categorized as follows: Age: Categorized into Adults (< 45

years), Pre-Elderly (45–59 years), and Elderly (≥ 60 years). Education Level: Classified based on formal schooling completion, grouped into low education (no schooling or elementary), secondary education (middle or high school), and higher education (college/university). Income: Categorized based on the regional minimum wage (UMR) threshold to reflect socioeconomic purchasing power and access to health resources. Comorbidities: The presence of Diabetes Mellitus was recorded strictly based on formal physician diagnoses documented in the medical records. Family History & Insurance: Categorized as Yes/No based on administrative data.

Data were extracted retrospectively from secondary medical records. To ensure data validity and reliability, the extraction process was cross-checked with the health center's administrative and clinical staff. Data completeness was strictly monitored during extraction, and records with missing critical variables were automatically excluded from the final sample.

Data were analyzed univariately to describe the frequency and percentage distribution of each variable. Furthermore, to provide stronger justification for media planning, an exploratory bivariate analysis was performed using the Chi-Square test (Continuity Correction). This inferential test was used to examine the statistical significance of differences in educational proportions between the elderly and adult age groups.

This study was conducted in strict accordance with ethical standards for human research and received ethical approval from the appropriate Institutional Review Board / local health authority (Permit Number: 4808/KEP-UNISA/IX/2025). To maintain patient confidentiality, all extracted medical record data were fully anonymized prior to data processing and analysis.

RESULTS

Table 1. Distribution of Sociodemographic Characteristics of Hypertension Patients

Respondent Characteristics	Category	f	%
Age	Adults (< 45 Years)	4	4
	Pre-Elderly (45 - 59 Years)	17	17
	Elderly (≥ 60 Years)	79	79
Gender	Male	26	26
	Female	74	74
Marital Status	Married	85	85
	Widow / Widower / Divorced	15	15
Level of education	No School	12	12
	Elementary School	55	55
	Middle School	18	18
	High School	11	11
	Higher Education (D3/S1)	4	4
Work	Laborer	44	44
	Farmer	15	15
	Housewife	13	13
	Trader	12	12
	Not Working	8	8
	Retired	6	6
	Others (Self-Employed, Elderly Care)	2	2
	No Income	8	8

Monthly Income	< IDR 1,000,000	20	20
	IDR 1,000,000 – 2,000,000	62	62
	> IDR 2,000,000	10	10

Based on Table 1, the demographic profile shows that the respondents were predominantly female (74%) and heavily concentrated in the elderly age group of ≥ 60 years (79%). Regarding educational attainment, a substantial 67% of the targets had an educational background of elementary school or below, including those with no formal schooling. In terms of occupation and socioeconomic status, a combined proportion of 59% were engaged in physical labor (laborers and farmers), with the vast majority of all respondents (90%) reporting a monthly income of IDR 2,000,000 or less. Apart from demographic data, mapping was also carried out on aspects of clinical conditions (comorbidities) and ownership of health insurance to complete the target profile.

Table 2. Distribution of Clinical Characteristics and Insurance Ownership

Variable	Category	f	%
Family History of Hypertension	Yes	100	100
	None	0	0
Comorbidities	None	91	91
	Diabetes Mellitus	9	9
Health Insurance Ownership	Yes	94	94
	No	6	6

All respondents (100%) had a family history of hypertension. This finding is highly characteristic of the specific sampling context at this primary healthcare facility, where tracing familial risk factors is a routine part of the clinical screening and diagnostic process. Furthermore, a small proportion of the target population (9%) had comorbidities such as diabetes mellitus. In terms of access to healthcare services, the vast majority of respondents (94%) actively utilized health insurance.

Table 3. Cross Tabulation of Age Groups by Education Level

Level of education	Adults (< 45 Years)	Pre-Elderly (45 - 59 Years)	Elderly (≥ 60 Years)	Total
No School	0	0	12	12
Elementary School	0	9	46	55
Middle School	2	4	12	18
High School	2	2	7	11
College	0	2	2	4
Total	4	17	79	100

Table 3 demonstrates the distribution of educational literacy across age groups. Of the 79 elderly individuals with hypertension, the majority (58 or 73.4%) had only completed elementary school or had never attended school. Conversely, among younger age groups (adults and pre-elderly), education was slightly more evenly distributed, spanning secondary education (middle school/high school) and higher education.

Table 4. Relationship between Age Group and Education Level of Hypertension patients

Age Group	Low Education (Elementary School/No Schooling)	Secondary/Higher Education	Total	χ^2	df	p-value
Adults (< 60 Years)	10	12	22	4.735	1	0.029*
Elderly $\geq$ 60 Years)	57	21	78			
Total	67	33	100			

Based on Table 4, the crosstabulation results show that the majority of hypertension patients in the elderly group (≥ 60 years) have a low level of education (57 people). In contrast, in the adult group (< 60 years), the proportion of education levels tends to be more evenly distributed, with the majority having secondary to higher education (12 people). The results of the Chi-Square statistical test (with Continuity Correction) yielded a statistic value of $\chi^2 = 4.735$ with 1 degree of freedom ($df = 1$) and a p-value of 0.029 ($p < 0.05$). Additionally, the effect size calculated using Cramer's V was 0.243, indicating a moderate and statistically significant association between the age group and the level of education. These quantitative findings confirm that the elderly target group at Bambanglipuro Health Center has significantly lower formal educational level compared to the adult group.

DISCUSSION

The results of this study indicate that hypertension patients at the Bambanglipuro Community Health Center are predominantly women and the elderly (≥ 60 years). The predominance of the elderly population indicates that hypertension in this region is a health problem closely related to the aging process and the accumulation of risk factors throughout the life cycle

(Oliveros et al., 2020). This finding aligns with a WHO report stating that the prevalence of hypertension increases significantly in the elderly (WHO, 2023).

However, compared to several studies in urban areas that show a higher proportion of productive age groups (Prahassiwati & Sukendra, 2024), the results of this study emphasize the local characteristics of this community health center's work area, thus requiring a different and more specific health promotion approach (Ningharto et al., 2020). The high proportion of women is also in line with national studies (Kemenkes RI, 2023). This female dominance reflects not only biological aspects but also the social context, where women—especially housewives and the elderly—more often access primary health services than men (Chen & Tian, 2024), highlighting the need for a gender-sensitive approach in communication (WHO, 2021).

From the educational aspect, the results show that the majority of hypertension patients have a low level of education, with some having never received formal education (Novrianti et al., 2022). These findings are consistent with systematic reviews stating that low education is often associated with difficulties in understanding complex health information (M. Faber et al., 2023). This literacy gap is empirically strengthened by

the Chi-Square statistical test in this study, which proves a significant difference in educational levels between the elderly and adult groups ($p=0.029$) (J. S. Faber et al., 2023).

Referring to Nutbeam's Health Literacy Theory (2008) and the Cognitive Theory of Multimedia Learning (Mayer, 2009), elderly groups with basic education generally face functional barriers and limited working memory when processing dense textual information (Lu et al., 2023). Consequently, relying on information-dense print media may trigger cognitive overload (Galmarini et al., 2024). However, because health literacy and media preferences were not directly measured, this study proposes an informed hypothesis: simple visual educational media (e.g., illustrated flip sheets or image-dominant posters) combined with interpersonal communication may be more appropriate for the elderly. Conversely, for younger age groups (adults and pre-elderly) with more evenly distributed education, independent and informative media such as leaflets or digital infographics could be considered. Future studies should directly assess these media preferences before implementation.

The research results also show that the majority of respondents work in the informal sector and have incomes below the minimum wage. These socio-economic conditions require stronger consideration, as they significantly influence disease management (Nutbeam & Lloyd, 2021). Lower socioeconomic status is closely linked to delayed healthcare utilization and poor adherence to continuous hypertension management due to financial constraints and competing daily priorities. Moreover, the high proportion of physical workers (laborers and farmers, 59%) strongly indicates the need for time-efficient and practical media formats, as these individuals may have limited time to consume lengthy

educational materials (Wulandari et al., 2025). This socioeconomic barrier restricts access to digital technology-based interventions, making these groups more responsive to cheap, easily accessible, and community-based interpersonal approaches (Nyame et al., 2024).

All respondents in this study had a family history of hypertension, a 100% finding that reinforces the strong influence of genetics and shared environmental factors (Izzati et al., 2024). The PRECEDE–PROCEED model emphasizes that the family is a reinforcing factor playing a crucial role in health behavior change (Green et al., 2022), meaning health communication must explicitly involve families as targets (Wardani, 2023). Although only a small proportion had comorbid diabetes mellitus, its presence reinforces the WHO's call for integrated, holistic messages targeting shared risk factors (Edriyani & Elfrida, 2023; Rosyidah et al., 2024; WHO, 2023). Regarding access, high insurance ownership (94%) is associated with increased utilization of promotive services (Hasibuan, 2025). This high coverage serves as an excellent structural resource, allowing health promotion media to confidently focus messages on encouraging routine blood pressure monitoring at primary healthcare facilities (Rosida & Umalah, 2023).

The main strength of this research lies in its use of real-world primary healthcare data to conceptualize communication strategies (Primadani et al., 2025). Rather than stopping at risk mapping, it integrates sociodemographic findings into practical media planning that is contextual and realistic (Gusti & Mayasari, 2024; Suraya et al., 2024). However, several limitations must be noted. This study employed a cross-sectional descriptive design with purposive sampling in a single health center setting, which inherently limits

generalizability. The distribution of the elderly group (79%) may reflect the actual active patient population but could also be influenced by the sampling procedure requiring complete medical records. Furthermore, relying on secondary data carries risks regarding recording accuracy. Most importantly, the lack of direct measurement of health literacy and media preferences means the proposed communication formats remain informed hypotheses requiring further empirical validation.

CONCLUSIONS

Hypertension patients at the Bambanglipuro Community Health Center are predominantly elderly and female individuals with relatively low educational attainment and socioeconomic status. These characteristics should be considered when designing health promotion media. Future studies should evaluate patients' health literacy, communication preferences, and the effectiveness of tailored educational media before large-scale implementation.

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