

## Implementation of Health Belief Model on Knowledge of Hypertension Prevention among At-Risk Adolescents in Bojongsawah Village, Kebon Pedes Subdistrict, District

Rita Siti Hawa<sup>a\*</sup> | Irawan Danismaya<sup>b</sup> | Amir Hamzah<sup>c</sup>

<sup>a,b,c</sup> Faculty of Health, Universitas Muhammadiyah Sukabumi

\*Corresponding Author: [ritasitihawa@gmail.com](mailto:ritasitihawa@gmail.com)

### ARTICLE INFORMATION

#### Article history

Received (26 January 2025)

Revised (21 June 2025)

Accepted (2 July 2025)

#### Keywords:

Health Belief Model, Knowledge,  
Hypertension Prevention,

### ABSTRACT

**Introduction:** Hypertension is an increasing health concern not only among adults but also adolescents. In Bojongsawah Village, many adolescents engage in high-risk behaviors such as smoking, alcohol consumption, and unhealthy diets, while lacking awareness about hypertension and its prevention.

**Objectives:** This study aimed to evaluate the effectiveness of the Health Belief Model (HBM) in increasing knowledge of hypertension prevention among at-risk adolescents in Bojongsawah Village, Kebon Pedes Subdistrict, Sukabumi District.

**Methods:** This research used a quantitative approach with a quasi-experimental design (one group pre-test and post-test). A total of 40 adolescents aged 18–22 years participated, selected through convenience sampling. The HBM-based intervention included education on perceived susceptibility, severity, benefits, barriers, and self-efficacy. Knowledge was measured using a validated and reliable 30-item questionnaire. Data were analyzed using a paired sample t-test with SPSS version 20.0.

**Results:** The average pre-test knowledge score was 17.00, categorized as moderate, while the post-test score increased to 24.00, categorized as good. The paired sample t-test showed a statistically significant increase in knowledge following the intervention (p-value = 0.000).

**Conclusions:** The implementation of the Health Belief Model significantly improved adolescents' knowledge about hypertension prevention. This suggests that HBM-based health education can be an effective strategy to enhance health literacy and promote preventive behaviors among at-risk adolescents.

## Introduction

Hypertension or high blood pressure is a growing global health concern, including among adolescents. Although often underestimated, adolescent hypertension significantly increases the risk of future cardiovascular and kidney diseases, potentially leading to long-term morbidity and premature mortality (Islam et al., 2025). Hypertension in adolescents is defined as systolic blood pressure of  $\geq 130$  mmHg or diastolic blood pressure of  $\geq 90$  mmHg. Based on research by Kurnianto et al., (2020), there are several risk factors that can trigger hypertension in adolescents, such as gender, physical activity level, stress management, sleep duration, smoking and alcohol consumption, diet, and nutritional status.

Many residents in Bojong Sawah Village, Kebon Pedes Sub-district, Sukabumi District, think that hypertension only affects adults or the elderly, and they believe that teenagers cannot get hypertension. In addition, they do not realize the importance of knowing their blood pressure, risk of hypertension, influencing factors, and ways to reduce the risk. Based on observations of several adolescents in the village, many of them are stressed, have unhealthy diets, poor sleep



This is an Open Access article  
Distributed under the terms of the  
[Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

quality, and smoke and consume alcohol when hanging out with friends. The adolescents did not realize that these lifestyle changes could be risk factors for hypertension.

Hypertension is still found among Indonesian adolescents. Based on research by Wulandari & Sukendra (2024), about 8 percent of the adolescents studied experienced hypertension. The increase in this number is caused by an unhealthy lifestyle. As many as 95% of Indonesians consume less vegetables and fruits, 33% do not exercise enough, 29% smoke at productive age, 31.1% have central obesity, and 21.8% of adults suffer from obesity. The 2018 RISKESDAS data also showed that 44.13% of the population in Bara Java had hypertension in adolescents, which can increase morbidity and mortality rates and reduce productivity, so its handling is very important. If not treated properly, this condition can increase the risk of stroke, coronary heart disease, and kidney failure. (Related et al. 2023). Unfortunately, many adolescents do not realize that habits such as lack of sleep, smoking, and consuming alcohol can be risk factors for hypertension. Most adolescents also do not fully understand hypertension, including its symptoms, risk factors, and long-term effects. Therefore, the application of the Health Belief Model (HBM) theory is essential to improve adolescents' knowledge about hypertension prevention. This theory is often used to understand health prevention and treatment behaviors, including disease detection. HBM argues that a person's perceptions and beliefs regarding a disease or condition will influence their behavior (Hermanto & Katmini, 2021).

To address this gap, a behavioral approach like the Health Belief Model (HBM) is considered relevant and effective. The HBM explains how personal beliefs about health problems influence health-related behaviors. This model emphasizes the importance of perceived susceptibility, perceived severity, perceived benefits, and perceived barriers in changing behavior. Prior studies, including that of Rayanti et al., (2021), have demonstrated that interventions based on HBM principles can significantly improve adherence to hypertension treatment and enhance understanding of disease prevention. Given the increasing incidence of hypertension among adolescents in Bojongsawah Village and the lack of awareness and prevention strategies in the area, this study aims to implement HBM-based health education to evaluate its effectiveness in improving adolescents' knowledge about hypertension prevention.

Based on the above background, researchers are interested in conducting research with the title "Implementation of the health belief model on knowledge of hypertension prevention in adolescents at risk in bojong sawah village, kebon pedes sub-district, sukabumi district". This study aims to evaluate the effectiveness of the Health Belief Model (HBM) in increasing knowledge about hypertension prevention among adolescents who are at risk. The specific objectives of this research are (1) To measure the level of knowledge about hypertension prevention among at-risk adolescents before the implementation of the HBM. (2) To measure the level of knowledge after the implementation of the HBM. (3) To analyze the effect of the Health Belief Model intervention on the change in knowledge levels among the respondents.

## Methods

This study used a quantitative approach with a quasi-experimental design, specifically a one group pre-test and post-test design. The research was conducted in Bojongsawah Village, Kebonpedes Subdistrict, Sukabumi District, involving a group of at-risk adolescents. Participants were measured before and after receiving an intervention based on the Health Belief Model (HBM). The HBM used in this study included five key components: perceived susceptibility (belief about the risk of developing hypertension), perceived severity (belief about the seriousness of the condition), perceived benefits (belief in the effectiveness of preventive actions), perceived barriers (beliefs about obstacles to behavior change), and self-efficacy (confidence in one's ability to perform health behaviors). These components were presented during structured health education sessions as part of the intervention.



The target population consisted of adolescents aged 18–22 years who were considered at risk of hypertension due to unhealthy lifestyle habits. The total sample consisted of 40 respondents selected using convenience sampling. The inclusion criteria were adolescents aged 18–22 years who resided in Bojongsawah Village, were willing to participate as indicated by informed consent, and were not diagnosed with hypertension but had identifiable risk factors such as smoking, poor dietary habits, insufficient physical activity, or poor sleep quality. Exclusion criteria included adolescents with existing medical conditions affecting blood pressure, those who were absent during either the pre-test or post-test, and those who declined to complete the questionnaire (Sugiyono, 2020).

Data were collected using a structured questionnaire consisting of 30 multiple-choice questions measuring knowledge of hypertension causes, symptoms, risk factors, and prevention strategies. The questionnaire underwent validation and reliability testing prior to distribution. Validity was tested using Pearson's product-moment correlation, where all items obtained r-count values greater than the r-table value of 0.312, indicating that each item was valid. Reliability was measured using Cronbach's Alpha and resulted in a value of 0.872, which indicates high internal consistency and reliability of the instrument. Primary data collection was conducted directly through questionnaires and interviews with the adolescent respondents in Bojongsawah Village, without the use of secondary data. Data analysis involved univariate analysis to describe the characteristics of respondents and their level of knowledge, as well as bivariate analysis using the Paired Sample T-Test to assess the effectiveness of the HBM intervention in increasing knowledge. All data were processed using SPSS version 20.0 (Ghozali, 2018).

## Results

### 1. Respondent Characteristics

This study shows the results of frequency distribution data and percentages related to the characteristics of respondents, which include gender, age, education being undertaken, as well as a description of hypertension prevention knowledge in adolescents at risk, both before and after being given the intervention.

#### a. Gender

Before explaining the results of this study, researchers need to first describe the identity of respondents based on gender.

Table1 . Distribution of respondent characteristics based on gender (n=40)

Gender	Frequency	Percentage
Mal	15	37.5%
Female	25	62.5%
<b>Total</b>	<b>40</b>	<b>100%</b>

Based on table 1, it can be seen that there were 15 respondents who were male (37.5%), while there were 25 respondents who were female (62.5%). Thus, the majority of respondents were female, as many as 25 people (62.5%).

#### b. Age

Before explaining the results of this study, researchers need to first describe the identity of respondents based on age.

Table2 . Distribution of respondent characteristics based on age (n=40)

Variables	Average	Std. Deviation	Minimum	Maximum
Age	19.00	1.369	18	22

Based on table 2, it can be seen that the average age of respondents is 19.00 years, with a minimum age of 18 years and a maximum age of 22 years.



### c. Education

Before explaining the results of this study, researchers need to first describe the identity of the respondents based on their current education.

Table3 . Distribution of respondent characteristics based on education (n=40)

Level	Frequency	Percentage
College	19	47.5%
High school/equivalent	21	52.5%
Total	40	100%

Based on table 3, it shows that 19 respondents (47.5%) who are currently undergoing education at tertiary institutions and 21 people (52.5%) who are currently undergoing education at high school / equivalent. The results of this study indicate that the majority of respondents are currently undergoing education in high school / equivalent, as many as 21 people (52.5%)

### 2. level of hypertension prevention knowledge in at-risk adolescents before the intervention

Before explaining the results of this thesis research, the researcher will first describe the knowledge of hypertension prevention in adolescents at risk before being given the intervention.

Table4 . hypertension prevention knowledge of at-risk adolescents before intervention (n=40)

Knowledge	Average	Std. Deviation	Minimum	Maximum
Pre-test	17.00	6.213	8	30

Based on table 4, it can be seen that the knowledge of hypertension prevention in adolescents at risk before being given the intervention shows that respondents have an average value of 17.00, with a minimum value of 8 and a maximum value of 30.

### 3. Knowledge level of hypertension prevention among at-risk adolescents after intervention

Before discussing the results of the study, the researcher will first describe the knowledge of hypertension prevention in adolescents at risk after being given the intervention.

Table5 . hypertension prevention knowledge in at-risk adolescents after intervention (n=40)

Knowledge	Average	Std. Deviation	Minimum	Maximum
Post-test	24.00	3.452	18	30

Based on table 5, it can be seen that the knowledge of hypertension prevention in adolescents at risk after being given the intervention shows that the average respondent has a value of 24.00, with a minimum value of 18 and a maximum value of 30.

### 4. Effect of Health Belief Model (HBM) Implementation on increasing adolescents' knowledge about preventing hypertension in Bojong Sawah Village

#### a. Normality Test

The following are the results of the normality test for knowledge of hypertension prevention in adolescents at risk, among others:

Table6 . Saphiro-Wilk Normality Test Results knowledge of hypertension prevention in adolescents at risk

Hypertension Prevention Knowledge	Saphiro-Wilk P-value	Conclusion
Pre Intervention	0,164	Normal
Post Intervention	0,092	Normal

Based on Table 6, the results of the normality test using Shapiro-Wilk on the variable knowledge of hypertension prevention in adolescents at risk show that the P-value at pre-

intervention (P-value: 0.164) and post-intervention (P-value: 0.092) is greater than 0.05. This indicates that the hypertension prevention knowledge variable is normally distributed.

b. Homogeneity Test

The following are the results of the homogeneity test for knowledge of hypertension prevention in adolescents at risk including:

Table7 . Homogeneity test results of hypertension prevention knowledge in adolescents at risk

Variables	Levene Test Value	P-Value
Hypertension Prevention Knowledge	1,781	0,110

Based on table 7, the results of the homogeneity test on the variable knowledge of hypertension prevention in adolescents at risk show that the P-value is greater than 0.05. Because the significance value (sig) of 0.110 > 0.05, it can be concluded that the data variance of the value of knowledge of prevention of hypertension in adolescents at risk is homogeneous.

c. Hypothesis Test

The Paired Samples Test was conducted to determine the difference in mean values between two paired groups, namely to measure the effect of Health Belief Model (HBM) implementation on increasing adolescents' knowledge about preventing hypertension in Bojong Sawah Village, Kebon Pedes Sub-district, Sukabumi District. This test compares knowledge before and after the intervention to assess changes that occur after the implementation of the model.

The following are the results of the analysis regarding the implementation of the Health Belief Model (HBM) to increase adolescents' knowledge about preventing hypertension, including:

Table8 . Analysis of the Implementation of the Health Belief Model (HBM) on increasing adolescents' knowledge about preventing hypertension events

knowledge about preventing hypertension events						t	df	Sig. (2-tailed)
Paired Differences								
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
					Lower	Upper		
Pair	PRE	-5.700	2.972	.470	-6.650	-4.750	-12.131	0.000

Based on Table 8, the results of statistical tests using the Paired Samples Test showed a P-value of 0.000, which is smaller than 0.05. It was concluded that the implementation of the Health Belief Model (HBM) had a significant effect on increasing adolescents' knowledge about preventing hypertension in Bojong Sawah Village, Kebon Pedes Sub-district, Sukabumi District.

## Discussion

### 1. Overview of Adolescent Knowledge about Prevention of Hypertension Events Before Implementation of HBM

Based on the results of research on 40 respondents, it was found that the knowledge of adolescents before being given the implementation of the Health Belief Model (HBM) regarding the prevention of hypertension events had an average value of 17.00, which was included in the moderate knowledge category. This result is in line with research which shows that before the intervention, the level of knowledge of adolescents about the prevention of hypertension is still in the moderate category. (Talango, KUSDHIARNINGSIH 2024) The level of knowledge of preventing complications of hypertension in the intervention group during the pre-test showed that most



respondents were in the Less Good category, as many as 23 respondents (47.9%), while the least were respondents in the Good category, with a total of 9 respondents (18.8%).

This is reinforced by research (Nur, Anto J, Haslinah 2024) In the intervention group before health education based on the Health Belief Model (HBM) related to health, the pre-test results showed that respondents' knowledge was in the poor category. The average values for the variables in the model are as follows: perceived vulnerability with an average value of 18.91, perceived seriousness of 22.14, perceived benefits of 17.64, perceived barriers of 20.71, and self-efficacy of 20.75

In addition, research conducted by Siswanto & Afandi (2019) revealed that the low level of knowledge of adolescents can be caused by the lack of educational interventions tailored to this age group. Adolescents often neglect their health because they think that diseases such as hypertension only affect adults or the elderly. In fact, data from the Ministry of Health (2018) shows that the prevalence of hypertension among adolescents in Indonesia continues to increase, with risk factors such as unhealthy diet, stress, and lack of physical activity as the main causes (Eny Dwimawati et al., 2021).

The social environment also plays a significant role. Based on initial observations, adolescents in Bojong Sawah Village have habits that increase the risk of hypertension, such as smoking, consumption of foods high in salt, and irregular sleep patterns. However, the lack of health education from family, school, or health facilities means that they do not realize the direct relationship between these habits and the risk of hypertension. Overall, the low knowledge of hypertension prevention among adolescents before the HBM intervention suggests that a more structured and theory-based educational approach, such as HBM, is needed. This approach can increase adolescents' awareness of the importance of hypertension prevention and build healthy habits early on to reduce the long-term risk of hypertension.

## **2. Overview of Adolescent Knowledge about Prevention of Hypertension After Implementation of HBM**

Based on the results of the study of 40 respondents, it was found that the knowledge of adolescents after being given the implementation of the Health Belief Model (HBM) on the prevention of hypertension showed an average value of 24.00, which is included in the good knowledge category. This is in line with the results of a study that showed a significant increase in knowledge after the intervention, which indicates that the application of HBM is effective in increasing adolescents' understanding of the importance of hypertension prevention. (Talango, Kusdhiarningsih 2024) That after being given the treatment of counseling education and health coaching based on the Health Belief Model theory, most respondents had good knowledge, as many as 42 respondents (87.5%), while the least were in the poor category, namely 1 respondent (2.1%). This is reinforced by research showing that Health Belief Model-based interventions can significantly increase knowledge and awareness about the importance of hypertension prevention, especially among adolescents. (Nur, Anto J, Haslinah . 2024; Cardoso et al., 2022).

This is reinforced by research (Nur, Anto J, Haslinah 2024) In the intervention group, after health education based on the Health Belief Model (HBM) related to health, there was a significant increase in the mean value of the variables measured. The mean value for the perceived susceptibility variable increased to 39.13, perceived seriousness to 37.37, perceived benefits to 37.50, perceived barriers to 40.50, and self-efficacy to 41.50. This suggests that the implementation of HBM was successful in increasing adolescents' understanding and awareness of the various factors that influence their health behaviors, including their perceptions of the risk of hypertension and their ability to take preventive measures

Thus, it can be concluded that most of the respondents in the pre-test did not have sufficient knowledge about hypertension prevention. However, after the intervention using the Health Belief Model (HBM), there was a significant increase in knowledge among respondents. The



Health Belief Model proved to be effective as a health education tool, as it is one of the models developed to encourage individuals to take actions that are beneficial to health. The implementation of HBM in education is proven to be able to improve adolescents' knowledge about hypertension prevention and control, as seen from the significant increase in knowledge after being given HBM-based education.

### **3. Effect of Health Belief Model (HBM) Implementation on increasing adolescents' knowledge about preventing hypertension events**

Based on the results of statistical tests using the Paired Samples Test, a P-value of 0.000 was obtained, which is smaller than 0.05. This shows that the  $H_0$  hypothesis is rejected and the  $H_a$  hypothesis is accepted, which means that the implementation of the Health Belief Model (HBM) has a significant effect on increasing adolescents' knowledge about hypertension prevention in Bojong Sawah Village, Kebon Pedes Subdistrict, Sukabumi District.

Based on research (Nur, Anto J, Haslinah 2024) It was found that there was an increase in knowledge after health education intervention education with the Health Belief Model (HBM) approach in the intervention group and control group. The effectiveness of health education using the HBM approach is seen in variables such as perceived vulnerability ( $p=0.000$ ), perceived seriousness ( $p=0.000$ ), perceived benefits ( $p=0.000$ ), perceived barriers ( $p=0.000$ ), and self-efficacy ( $p=0.000$ ), all of which have a significant effect on increasing health knowledge

There was a significant difference between the intervention group in the pre-test and post-test with a P-value of  $0.000 < 0.05$ . The results also showed a significant difference in the control group between pre-test and post-test with a P-Value of  $0.000 < 0.05$ . In addition, there was a significant difference in knowledge between the intervention group and the control group with a P-Value of  $0.000 < 0.05$ . In conclusion, counseling education based on the Health Belief Model theory is proven effective in increasing knowledge about the prevention of hypertension complications. (Talango, Kusdhiarningsih 2024)

Efforts to control hypertension can be done through the provision of health education that aims to make individuals who experience hypertension understand the concept of hypertension, its complications, and ways to manage this disease (Cahyanti et al., 2021). Health education is a planned opportunity to learn, which involves the provision of information by health workers to influence the process of changing one's behavior. One method that can be used in health education is the Health Belief Model theory-based approach (de Sousa Mata et al., 2021; Dwinanda & Handayani, 2024).

This theory is often used to understand health prevention and treatment behaviors, such as early detection of disease. Health education based on the Health Belief Model is a conceptual approach that aims to identify factors that influence behavior change, such as demographic factors and knowledge, as well as individuals' perceptions of health (Ghorbani-Dehbalaei et al., 2021). These perceptions look at an individual's motivation to avoid disease and their belief that there are steps that can be taken to prevent the disease. This method is applied to encourage individuals to take better and more proactive health actions (Striberger et al., 2021; Mercadante & Law, 2021).

This is reinforced by research Suirvi, Herlina, Dewi (2022) The results of the Dependent t test show that the value of knowledge, perceptions, and behavior of hypertensive patients has increased after being given Health Belief Model-based health education. With a p-value of 0.000 which is smaller than  $\alpha$  (0.05), it can be concluded that there is a significant increase in knowledge, perceptions, and behavior regarding hypertension after intervention using the Health Belief Model approach in hypertensive patients.

Based on the researchers' assumptions, it can be concluded that health education using the Health Belief Model approach is effective in improving hypertension prevention in adolescents. The high responsiveness of adolescents to the health information provided affects the



effectiveness of the education. The application of the Health Belief Model to adolescents at risk of hypertension can increase their knowledge about hypertension prevention, as well as improve their perceptions and behaviors in overcoming the disease.

## Conclusion

Based on the results of research on 40 respondents, it is known that the knowledge of adolescents in Bojong Sawah Village before being given the implementation of the Health Belief Model (HBM) related to hypertension prevention has an average value of 17.00, which is included in the category of sufficient knowledge.

After being given the Health Belief Model (HBM) Implementation, the knowledge of adolescents in Bojong Sawah Village about hypertension prevention increased, with an average value reaching 24.00, which is included in the good knowledge category.

Based on the results of statistical tests with paired sample test, the P-value of  $0.000 < 0.05$  was obtained. This indicates that  $H_0$  is rejected and  $H_a$  is accepted, which means that the implementation of the Health Belief Model (HBM) has a significant effect on increasing adolescents' knowledge about hypertension prevention in Bojong Sawah Village, Kebon Pedes Subdistrict, Sukabumi District.

## References

- Berhubungan, F. Y., Kejadian, D., Wulandari, F. W., Ekawati, D., Harokan, A., & Murni, N. S. (2023). *PENDAHULUAN Hipertensi merupakan kondisi medis yang serius dan dapat meningkatkan risiko penyakit jantung , ginjal serta Pada tahun 2018 jumlah penderita hipertensi berusia > 15 tahun di Provinsi Palembang menyumbang angka tertinggi Penderita hipertensi p. 8.*
- Cahyanti, Y., Somantri, I., Cahyanti, A., Rosdiana, I., Sugiarti, I., Iman, A. T., & Puruhita, T. K. A. (2021). Penatalaksanaan Terpadu Penyakit Tidak Menular (Pedoman Bagi Kader dan Masyarakat). In *Deepublish*.
- Cardoso, J. D. C., Azevedo, R. C. de S., Reiners, A. A. O., & Andrade, A. C. de S. (2022). Health beliefs and adherence of the elderly to fall prevention measures: a quasi-experimental study. *Revista Brasileira de Enfermagem*, 75. <https://doi.org/10.1590/0034-7167-2020-1190>
- de Sousa Mata, Á. N., de Azevedo, K. P. M., Braga, L. P., de Medeiros, G. C. B. S., de Oliveira Segundo, V. H., Bezerra, I. N. M., Pimenta, I. D. S. F., Nicolás, I. M., & Piuvezam, G. (2021). Training in communication skills for self-efficacy of health professionals: a systematic review. *Human Resources for Health*, 19(1). <https://doi.org/10.1186/s12960-021-00574-3>
- Dwinanda, A. N., & Handayani, D. Y. (2024). Pengaruh Pendidikan Kesehatan Dengan Metode Drill Media Audio Visual Terhadap Activity Daily Living (ADL) Anak Tunagrahita di SLB BC Bina Harapan Pangandaran. *Jurnal Ilmiah Wahana Pendidikan*, 10(6), 87–106. <https://doi.org/https://doi.org/10.5281/zenodo.10637749>
- Eny Dwimawati, Fitri Dian Nila Sari, Evamona Sinuraya, & Purwaningsih. (2021). Prevalence and Determinants of Hypertension in Indonesia. *Indian Journal of Forensic Medicine & Toxicology*, 15(4). <https://doi.org/10.37506/ijfmt.v15i4.16846>
- Ghorbani-Dehbalaei, M., Loripoor, M., & Nasirzadeh, M. (2021). The role of health beliefs and health literacy in women's health promoting behaviours based on the health belief model: a descriptive study. *BMC Women's Health*, 21(1). <https://doi.org/10.1186/s12905-021-01564-2>





- Ghozali, I. (2018). Aplikasi Analisis Multivariate dengan Program IBM SPSS 25 Edisi 9. *Semarang: Badan Penerbit Universitas Diponegoro. Variabel Pemoderasi. E-Jurnal Akuntansi Universitas Udayana*, 23 (2)(1470).
- Hermanto, H., & Katmini, K. (2021). Application of HBM Theory (Health Belief Model) to Preventing Behavior of Hypertension Complications in Public Health Center Raas, Sumenep Regency. *Journal for Quality in Public Health*, 5(1). <https://doi.org/10.30994/jqph.v5i1.263>
- Islam, B., Ibrahim, T. I., Tingting, W., Wu, M., & Jiabi, Q. (2025). Current status of elevated blood pressure and hypertension among adolescents in Asia: a systematic review. *Journal of Global Health*, 15, 04115. <https://doi.org/10.7189/jogh.15.04115>
- Kurnianto, M. A., Kusumaningrum, H. D., & Lioe, H. N. (2020). Characterization of Streptomyces Isolates Associated with Estuarine Fish Chanos chanos and Profiling of Their Antibacterial Metabolites-Crude-Extract. *International Journal of Microbiology*, 2020. <https://doi.org/10.1155/2020/8851947>
- Mercadante, A. R., & Law, A. V. (2021). Will they, or Won't they? Examining patients' vaccine intention for flu and COVID-19 using the Health Belief Model. *Research in Social and Administrative Pharmacy*, 17(9). <https://doi.org/10.1016/j.sapharm.2020.12.012>
- Nur, H. H., Anto J, H., & Haslinah, A. (2024). Efektifitas Pendidikan Kesehatan Menggunakan Pendekatan Health Belief Model (HBM) terhadap Peningkatan Pengetahuan Kesehatan Reproduksi Remaja di MTSN 3 Padangsidempuan. *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)*, 7(2), 463–471. <https://doi.org/10.56338/mppki.v7i2.4944>
- Rayanti, R. E., Nugroho, K. P. A., & Marwa, S. L. (2021). Health Belief Model dan Management Hipertensi Pada Penderita Hipertensi Primer di Papua. *Jurnal Keperawatan Muhammadiyah*, 6(1). <https://doi.org/10.30651/jkm.v6i1.7065>
- Siswanto, Y., & Afandi, A. (2019). PENINGKATAN PENGETAHUAN TENTANG HIPERTENSI PADA REMAJA. *Jurnal Pemberdayaan Masyarakat Mandiri Indonesia (Indonesian Journal of Independent Community Empowerment)*, 2(3). <https://doi.org/10.35473/jpmmi.v2i3.32>
- Striberger, R., Axelsson, M., Zarrouk, M., & Kumlien, C. (2021). Illness perceptions in patients with peripheral arterial disease: A systematic review of qualitative studies. *International Journal of Nursing Studies*, 116. <https://doi.org/10.1016/j.ijnurstu.2020.103723>
- Sugiyono. (2020). *Metode Penelitian Kuantitati Kualitatif Dan R&D*.
- Suirvi, L., Herlina, & Dewi, A. P. (2022). EFEKTIVITAS PENDIDIKAN KESEHATAN BERBASIS THE HEALTH BELIEF MODEL PADA PENDERITA HIPERTENSI. *Jurnal Ners Indonesia*, 12(2).
- Talango, F., & Kusdhiarningsih, B. (2024). Pengaruh Edukasi Konseling Berbasis Teori Health Belief Model Terhadap Pengetahuan Pencegahan Komplikasi Hipertensi di Semarang. *Jurnal Keperawatan Sumba (JKS)*, 2(2), 79–90. <https://doi.org/10.31965/jks.v2i2.1425>
- Wulandari, D. P., & Sukendra, D. M. (2024). Gaya Hidup yang Memengaruhi Kejadian Hipertensi Usia Produktif (15-59 Tahun) di Puskesmas Toroh I. *HIGEIA (Journal of Public Health Research and Development)*, 8(4), 319–330.