
Social Determinants and Hypertension Incidence in Productive-Age Adults: A Literature

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Abstract . Hypertension, commonly known as high blood pressure, is a blood disorder characterized by an increase in blood pressure above the normal threshold of 140/90 mmHg during two measurements within a five-minute period in a calm state. Hypertension is one of the non-communicable diseases that causes high mortality rates in various countries. Increased blood pressure puts a heavier workload on the heart in pumping blood and circulating it throughout the body. Therefore, a person with high blood pressure is at high risk of developing serious complications. According to the WHO, most people with hypertension worldwide live in low- and middle-income countries. Although the prevalence of hypertension is greater in older age groups, it does not mean that younger age groups are immune to hypertension. The purpose of this study was to determine the social determinants of health on the incidence of hypertension in productive age groups. This study used a literature review method. This study concluded that the risk factors for hypertension in productive age are lifestyle factors, which include low physical activity, high sodium consumption, low fiber consumption, smoking, and alcohol consumption; psychosocial factors, which include knowledge, attitude, and stress levels; and host factors, which include age, genetics, nutritional status, and history of comorbidities.

Keywords: Determinants, Risk Factors, Hypertension, Productive Age

INTRODUCTION

The development of the times through globalization has had a significant impact on human life. Globalization has touched all aspects of human life, creating new challenges that must be faced. Globalization is characterized by the development of science and technology, which has led to the emergence of modern products, encouraging individuals to follow trends. This situation has the potential to cause individuals to adopt consumptive and unhealthy lifestyles. This behavior includes choosing to consume fast food and allowing individuals to engage in less physical activity due to scientific and technological developments (Saputri et al., 2024). Current technological developments provide practical solutions for individuals in terms

of the ease and speed of obtaining their needs. Currently, online services, such as food delivery through applications, are increasingly popular and help individuals obtain food for their daily needs. Young adults, such as college students, are one of the groups that often use these services due to their busy schedules and limited time (Efendi et al., 2025). The rise in fast food consumption due to its practical nature and taste, which is liked by many people, tends to reduce people's consumption of fruits and vegetables. Fast food usually contains low fiber, high calories, saturated fat, high sugar, and high sodium (Efendi et al., 2025). In the long term, this condition can increase the risk of degenerative diseases, such as hypertension. In addition, smoking is also a risk factor for degenerative diseases. Based on Riskesdas (2018), the highest prevalence of hypertension is also experienced by individuals who smoke, so smokers are included in the high-risk group for hypertension (Nurhaeni et al., 2022).

Degenerative diseases are diseases caused by a decline in organ function, which usually occurs in old age. However, the degenerative diseases mentioned here refer to a premature decline in cell function, which can be caused by many factors. The factors that cause degenerative diseases are unhealthy eating patterns, lack of physical activity, smoking, stress, and exposure to causes of degenerative diseases (Fatihaturahmi et al., 2023). Hypertension, commonly known as high blood pressure, is a condition characterized by an increase in blood pressure above the normal threshold of 140/90 mmHg during two measurements taken within five minutes in a calm state. Normal blood pressure ranges from 100-140/60-90 mmHg, but each individual's blood pressure can vary depending on age and activity level. Hypertension is one of the leading causes of death from non-communicable diseases in several countries. Increased blood pressure causes the heart to work harder to pump blood throughout the body's blood vessels. Thus, the higher an individual's blood pressure, the higher their risk of heart disease, kidney failure, and stroke (Dewati et al., 2023).

The World Health Organization (WHO) states that hypertension is a leading cause of premature death worldwide. It is estimated that 1 in 4 men and 1 in 5 women have hypertension. Most people with hypertension worldwide live in low- and middle-income countries (WHO). Based on data from the 2023 Indonesian Health Survey (SKI), the prevalence of hypertension in Indonesia in the 15-24 age group is 9.3%, in the 25-34 age group is 17.4%, in the 35-44 age group is 27.2%, in the 45-54 age group is 39.1%, and 49.5% in the 55-64 age group (Kementerian Kesehatan RI, 2023). Although the prevalence of hypertension is higher in older age groups, it does not mean that younger age groups will not be affected by hypertension. According to BPS (2022), the productive age is the 15-64 age group, where people in this age range are active in activities and generate economic value (Badan Pusat Statistik Kabupaten Tanah Datar, 2022). In Kasumayanti's research in Agustin (2025), the productive age group is included in the group vulnerable to hypertension due to their busy schedules and lifestyles that do not pay much attention to their health (Putri Agustin et al., n.d.).

Behavioral factors include lifestyle, diet, physical activity, and smoking habits, which are triggers for hypertension. However, there are other factors, namely social determinants of health, such as education level and occupation, which determine individuals' behaviors in their daily lives. Individuals with low levels of education predominantly experience hypertension because an individual's knowledge can influence their

awareness of behavior, including preventive behavior for hypertension. In addition, employment has an influence on physical activity patterns, where jobs that do not involve physical activity can affect blood pressure (Nurjaha Taiso et al., n.d.). The purpose of this study is to describe the influence of social determinants of health on hypertension in productive age groups.

METHODS

Writing articles using the narrative literature review method, which is a research writing method that aims to identify and analyze existing literature, research, and scientific articles with research questions within a specific topic scope. Literature searches begin by determining keywords based on the topic and research questions that have been determined. Then, a literature search was conducted on online databases such as Scimedirect and Google Scholar. In the process, research questions were needed to narrow down the necessary literature findings according to keywords. The research question here was "how do social determinants of health affect the incidence of hypertension in productive age groups?" The keywords used in the search were hypertension, productive age, risk factors, and determinants. The literature used came from journals published between 2021 and 2025. Based on the search results using the keywords "hypertension productive age," 13,000 articles were found before review. Subsequently, screening was conducted based on the title "determinants of hypertension in the productive age group" to eliminate irrelevant articles, reducing the number of articles to 2,020. Then, an abstract review was conducted, excluding articles that did not focus on productive age or articles that did not discuss determinants of hypertension. After analyzing the various articles found, this literature review will discuss the 10 most relevant sources of articles to the topic and research questions for writing the article.

RESULT

Table 1. Summary of research results in the literature

Authors (year)	Title	Population	Method	Result	Conclusion
Devi S & Thresya F (2021) [11]	Faktor Determinan Kejadian Hipertensi Pada Usia Produktif	This study used 163 samples with simple random sampling method.	This study used a cross-sectional design with chi-square test.	The results showed that family history, lack of physical activity, smoking habits, and lack of fruit and vegetable consumption each had a p-value < (0.05), indicating a significant relationship with the incidence of hypertension. Meanwhile, factors that were not	Family history, lack of physical activity, smoking habits, lack of fruit and vegetable consumption, and age are risk factors for hypertension in productive age.

Authors (year)	Title	Population	Method	Result	Conclusion
				significantly related were alcohol consumption, gender, and overweight.	
Marsya F. A, Wahyudi A, Ekawati D, Anggren D E (2025) [12]	Analisis Determinan Penyakit Hipertensi Pada Dewasa Usia 30-50 Tahun	A study with 128 samples using accidental sampling from a population of people aged 30 to 50 years who used the Kampus Community Health Center (Puskesmas).	The study used a case-control design with a chi-square test.	Bivariate analysis results showed that knowledge, attitude, smoking habits, fast food consumption habits, sodium consumption, physical activity, and medical history each had a p-value < (0.05), indicating a relationship with the incidence of hypertension. Meanwhile, multivariate analysis results showed that the most influential variable on the incidence of hypertension was the knowledge factor.	Knowledge, attitude, smoking habits, fast food consumption habits, sodium consumption habits, physical activity, and medical history are risk factors for hypertension in productive age groups.
Parellangi, Bisepta P, Khairir R, Ricko D U (2025) [13]	Analisis Faktor Determinan Kejadian Hipertensi di Kota Banjar Baru Tahun 2024	This study used 50 samples of people with hypertension in Banjarbaru City, South Kalimantan, through random sampling.	This study was tested using statistical analysis with the chi-square test.	The results showed that age, genetic history, nutritional status, coffee consumption patterns, vegetable consumption, salt intake, sleep patterns, stress levels, exercise habits, comorbidities, and adherence to hypertension medication each had a significant relationship with the occurrence of hypertension (p <	Age, genetics, nutritional status, coffee consumption patterns, vegetable consumption patterns, salt consumption patterns, sleep patterns, stress levels, exercise habits, comorbidities, and medication adherence are risk factors for the occurrence of hypertension.

Authors (year)	Title	Population	Method	Result	Conclusion
				0.05). Meanwhile, factors that did not have a significant relationship with the incidence of hypertension were gender, alcohol consumption patterns, smoking habits, and regularity of hypertension medication consumption.	
Idmi J, Henni K. H, Fitriani U, Usman U (2024) [14]	Analisis Faktor Yang Berhubungan Dengan Kejadian Hipertensi Pada Usia Produktif (15 – 59 Tahun)	The population in this study was the productive age group (15-59 years) with 99 samples using cluster sampling.	The method used in this study was cross-sectional with chi-square statistical testing.	The results showed that gender, occupation, physical activity, sodium, fat, and fiber intake, and nutritional status were each significantly associated with the incidence of hypertension in the productive age group with a p-value < (0.05). Meanwhile, age and education were not found to be significantly associated with the incidence of hypertension.	Gender, occupation, physical activity, sodium, fat, and fiber intake, and nutritional status are risk factors for hypertension in productive age.
Sigarni M, Sukandriani U, Mirzaulin L (2024) [15]	Hubungan Aktivitas Fisik, Kualitas Tidur, Pola Makan, Dan Obesitas Dengan Kejadian Hipertensi Pada Usia Produktif Di Kelurahan Turida Wilayah Kerja Puskesmas	This study used 423 samples through simple random sampling.	The method used was cross-sectional with chi-square statistical testing.	The results showed that physical activity, sleep quality, diet, and obesity each had a p-value < (0.05), which indicated a significant relationship with the incidence of hypertension in productive age.	Physical activity, sleep quality, individual diet, and obesity are risk factors for hypertension.

Authors (year)	Title	Population	Method	Result	Conclusion
	Cakranegara Kota Mataram				
Sherly V. W, Riri M, Ikhzan P (2023) [16]	Faktor-Faktor Yang Berhubungan Dengan Kejadian Hipertensi Pada Pasien Usia Produktif (18-64 Tahun) Di Wilayah Kerja Puskesmas Garuda Kota Pekanbaru	The population in this study consisted of 129 samples of patients of productive age at the Garuda Community Health Center, selected using purposive sampling.	This study used a cross-sectional design with chi-square statistical testing.	The results showed that knowledge, physical activity, sodium consumption, and obesity were significant factors with p values < (0.05) in each factor, which proved to have a significant relationship with the incidence of hypertension. Meanwhile, smoking habits were not significantly related to the incidence of hypertension with a p value > (0.05).	The incidence of hypertension in productive age can originate from factors such as knowledge, physical activity, sodium consumption, and obesity.
RD Halim & Agung S (2022) [17]	Studi Retrospektif Gaya Hidup Dan Kejadian Hipertensi Pada Usia Produktif.	The study population consisted of patients of productive age (25-54 years) who used the Neglasari Community Health Center general clinic, with 400 samples selected using a simple random method.	This study used a case-control design with a chi-square statistical test.	The results showed that physical activity, smoking habits, excessive salt consumption, and alcohol consumption were found to have a significant relationship with the incidence of hypertension with a p-value < (0.05) for each factor.	Physical activity, smoking habits, excessive salt consumption, and alcohol consumption are risk factors for the incidence of hypertension in productive age.
Upik P, Nia T, Wega F, P, Woro P (2022) [18]	Relationship Between Stress Level And The Event Of Hypertension At Productive Age At Kedaton Public Health	This study used total sampling of 68 patients with hypertension at the Kedaton Community Health Center.	This study is classified as an observational analytical study with a cross-sectional design using	The results show that stress levels have a significant relationship with the incidence of hypertension with a p-value < (0.05). The Spearman test	Stress level is a risk factor for hypertension in productive age.

Authors (year)	Title	Population	Method	Result	Conclusion
	Center, Bandar Lampung		Spearman's test.	also showed that there was a positive correlation between the two, where a high level of stress in a person can increase the risk of hypertension in that person.	
Ratu A. D. B, Jaya M, Nur L. F, Hairil A (2024) [19]	Analysis of Host and Socio-Cultural Factors with the Incident of Hypertension in the Productive Age (15-64 Years) in the Wiradesa Community Health Center Working Area	This study used 60 samples, with 30 samples each for the case and control groups, using a matching method.	The research method used a case-control design with a chi-square statistical test.	The results showed that economic status, nutritional status, and stress levels were significantly associated with the incidence of hypertension, with a p-value < (0.05).	Economic status, nutritional status, and stress levels are risk factors for hypertension.
Laluna R. P, Mahalul A, Alfiana A. N, Arulita I. F, Phitsanuruk K, Syed A. S (2025) [20]	Prevalence and Risk Factors of Hypertension among Young Adults: An Indonesian Basic Health Survey	This study used total sampling with secondary data from RISKESDAS 2018	This study used a cross-sectional study with chi-square statistical tests.	The results showed a significant relationship between hypertension and gender, marital status, education level, employment status, BMI \geq 25, diabetes mellitus, stress level, and consumption of instant foods, each with a p-value < (0.05).	Gender, marital status, education level, employment status, BMI \geq 25, diabetes mellitus, stress level, and instant food consumption are factors that contribute to hypertension.

DISCUSSION

Hypertension is often referred to as a silent killer. Many serious diseases originate from hypertension, such as heart disease, stroke, and kidney disease. These diseases require high medical costs and increase the risk of death. The high prevalence of hypertension in productive age is caused by busy lifestyles and unhealthy lifestyle factors, including lack of physical activity, low consumption of fruits and vegetables, smoking, alcohol consumption, and unhealthy eating habits such as high salt intake [21]. Research by Novendy (2022) states that a family history of hypertension is one of the factors contributing to hypertension in women of productive age. In addition, there are other factors, including consumption of foods high in salt,

fast food, infrequent consumption of fruits, and nutritional status, which are risk factors for hypertension in women of productive age [22].

Unhealthy eating patterns, such as frequent consumption of foods high in salt and fat, are risk factors for hypertension. Foods high in sodium and fat can burden the heart, causing an increase in blood pressure [23]. Research by Nanda Molani et al. (2023) shows that there is a significant relationship between nutritional status and hypertension. The link between nutritional status and hypertension can be seen from a person's Body Mass Index (BMI), as individuals with a BMI above 25 kg/m² have been shown to have an increased risk of high blood pressure [24].

Other factors, such as stress, are also associated with hypertension. This may be because people who experience emotional distress may cause their bodies to release key stress hormones. These hormones then activate the sympathetic nervous system, which can increase heart rate and blood pressure [25]. In a study by Sumarni et al. (2023), a significant relationship was found between knowledge and attitude and the incidence of hypertension. An individual's knowledge and attitude, such as difficulty processing information, which causes the individual to not adopt good behavior for their health, can lead to hypertension [26].

Research by Angkit Kinasih et al. (2021) showed that there was no significant relationship between physical activity and the risk of hypertension in productive age groups [27]. However, research by Yessi Rahayu et al. (2024) found that there was a significant relationship between physical activity and the incidence of hypertension in productive age groups [28]. In line with the findings of the literature review, physical activity is associated with the incidence of hypertension. Research conducted by Nur Indah Rahma Dilla, et al. (2024) obtained results through bivariate analysis related to the relationship between smoking behavior and the incidence of hypertension. Smoking habits have long-term effects by damaging blood vessels, which can increase the blood pressure of users [29]. In a study by Taamu et al. (2024), it was mentioned that people who smoke twice a day have a higher risk of developing hypertension [30].

CONCLUSION

Hypertension is a serious health problem often referred to as a silent killer that can increase the risk of diseases or complications such as cardiovascular disease, stroke, and kidney disorders. Risk factors for hypertension in productive age include lifestyle factors such as low physical activity, high sodium intake, low fiber intake, smoking, and alcohol consumption; psychosocial factors such as knowledge, attitude, and stress levels; and host factors such as age, genetics, nutritional status, and history of comorbidities. There are differences in research results such as gender, smoking habits, and alcohol consumption, but there are factors that are consistently significant, namely physical activity, sodium consumption, stress levels, and nutritional status. In general, the social determinants of health risk factors that influence individual behavior related to hypertension are knowledge.

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