OVERVIEW OF FAMILY SUPPORT AND KNOWLEDGE ABOUT THE DASH DIET IN HYPERTENSIVE PATIENTS

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ABSTRACT

Background: Prolonged hypertension can slowly damage blood vessels and trigger heart attacks, strokes, and kidney failure. The American Heart Association recommends managing hypertension with the Dietary Approaches to Stop Hypertension (DASH) diet. Family support affects DASH diet adherence through four mechanisms: instrumental, informational, rewarding, and emotional. The study aimed to assess the level of family support and understanding of the DASH diet among hypertensive patients in Flamboyant Ward 8 at Dr. Moewardi Hospital.
Methods: This study employed a quantitative observational design with a descriptive cross-sectional approach. The population of this study is the family of hypertension patients in the Flamboyant Ward 8 of Dr. Moewardi Hospital, with a sample size of 82 respondents, using accidental sampling. Data were collected using questionnaires.
Results: The results of this study showed that the characteristics of the majority of respondents aged 36-45 years (late adults) amounted to 34 respondents (41.5%), female sex amounted to 45 respondents (54.9%), and SMK/SMA education level amounted to 32 respondents (39.0%). The level of family support for the majority of the good category was 46 respondents (56.1%), and the level of knowledge about the DASH diet among the majority of the good category was 37 respondents (45.1%).
Conclusion: This study indicates that most families of hypertensive patients demonstrated strong family support, while knowledge of the DASH diet was comparatively low. These findings highlight the need to strengthen informational and educational interventions to complement existing family support and optimize non-pharmacological hypertension management.
Keywords: DASH diet, family support, hypertension, knowledge

INTRODUCTION

Hypertension is a non-communicable disease that is common in both developed and developing countries, including Indonesia. Hypertension is a serious threat to public health because it is a major risk factor for cardiovascular disease that can cause death and disability (Reyes-Garcia). Hypertension that is prolonged slowly but surely can damage blood vessels and can trigger heart attacks, strokes, and kidney failure, which are not only life-threatening but also decrease a person's quality of life due to physical and mental limitations (Miller *et al.,* 2022).
Prevalence according to the World Health Organization (WHO). In 2019, 650 million adults with hypertension worldwide increased to 1.3 billion. In Southeast Asia in 2019, about 294 million people aged 30 and over caused 2.4 million deaths each year (WHO,

2024). The prevalence of hypertension in Indonesia is 90-95%. According to the 2023 Indonesian health survey, hypertension patients aged 18 to 59 years reach 1.9 times (Ministry of Health of the Republic of Indonesia, 2024). Based on the prevalence of hypertension in Central Java, it reached 37.57%. The prevalence of hypertension is higher in women in 2021; the estimated number of hypertension patients aged 15 years and above reached 8,700,512 people, or 30.4%. Of the total population aged 15 years and above, it reached 4,431,538 people or 50.9% (Health Office, 2021). The incidence of hypertension in Surakarta. The number of cases found in 2023 was 67,355 cases, a decrease when compared to the number of cases in 2022, which was 92,614 cases (Surakarta Health Office, 2023).

The increase in cases of hypertension can be caused by widespread lifestyle changes in society, such as the habit of consuming fast food, foods high in salt, fat, sugar, and calories, which are often associated with a decrease in the consumption of fresh vegetables and fruits. Lifestyle behaviors that can be used to lower blood pressure in hypertensive patients include eating healthy foods, controlling weight, regularly doing physical activity, quitting smoking, and reducing alcohol (Kim, 2021). Nutritional improvement is the main basis for the treatment of nonpharmacological hypertension. An individual's success in following nutritional improvement is influenced by a variety of factors, including knowledge and education about nutrition. Individuals who have a good understanding of the benefits of diet and how to apply it tend to be more compliant, while strong motivation, both from within and from those closest to them, can increase commitment to dieting. (Reyes-Garcia) et al., 2022).

Another factor that plays an important role in dietary adherence is family support. Strong support from family can increase a person's level of adherence to a diet in various ways, including providing moral encouragement that strengthens confidence, motivating individuals to remain consistent despite challenges, and encouraging healthy eating habits (Say et al., 2021).

Family support plays a crucial role in hypertension management because it directly influences patients' adherence to both pharmacological and non-pharmacological treatments. Supportive family members can assist with meal preparation in accordance with the DASH diet, remind patients to take medication, encourage regular blood pressure monitoring, and provide emotional motivation to maintain healthy behaviors. Emotional, informational, and instrumental support from the family has been shown to improve dietary compliance and lifestyle modification, which are essential for long-term blood pressure control and prevention of complications.

The importance of understanding diet to manage hypertension through a healthy lifestyle, by improving diet, is key in preventing fatal impacts that can occur. The American Heart Association recommends one way to manage hypertension with diet, Dietary Approaches to Stop Hypertension (DASH), which is a diet designed to help lower blood pressure by eating foods rich in fruits, vegetables, and low-fat dairy products, fish, nuts, and legumes, and has a restriction of moderate amounts of sodium (Miller) et al., 2022). The DASH diet has been shown to be effective in lowering systolic blood pressure by 5.5 mmHg and diastolic blood pressure by 3.0 mmHg (Guo et al., 2021).

The main obstacle in the implementation of the DASH diet is the lack of compliance, as only a small part of society actually follows its rules and principles consistently. This is caused by various factors, such as limited knowledge, discomfort, and other food temptations that are not in line with these patterns (Guo et al., 2021). It is important for families to be actively involved in educational programs regarding the DASH diet and healthy lifestyle in order to better understand the needs of patients. With this involvement, families will gain adequate knowledge about recommended diets, blood

pressure management measures, and how to support patients in making the necessary lifestyle changes (Say et al., 2021). Family support is hypothesized to influence DASH diet adherence through three main mechanisms: instrumental support (practical assistance in food preparation), informational support (sharing knowledge about the DASH diet), and emotional support (motivation and positive reinforcement) (Surani et al., 2022).

The gap identified that hypertension is still a significant health problem worldwide, and its prevalence is steadily increasing, especially in developing countries. The DASH diet has been shown to be effective in lowering blood pressure, but patient adherence to the DASH diet program is very poor (Reyes-Garcia) et al., 2022). The gap identified is that there is still limited research that specifically examines the mechanisms and effectiveness of family support when implementing the DASH diet. From previous research, most have focused on the individual effectiveness of the DASH diet, without considering the role of the family support system.

The argument of this study concludes that the successful implementation of the DASH diet depends not only on individual knowledge and motivation, but also on family support. Family support can facilitate sustained behavior change through positive reinforcement, regular monitoring, and the creation of a supportive environment (Chacko & Jeemon, 2020).

Although the DASH diet has been widely studied as an effective non-pharmacological intervention for hypertension, existing studies predominantly focus on individual adherence and clinical outcomes. Limited evidence is available regarding the descriptive profile of family support dimensions and family knowledge of the DASH diet within hospital inpatient settings. Specifically, there is a lack of studies that simultaneously describe the levels of family support and DASH diet knowledge among families of hypertensive patients in tertiary care wards, particularly in the Indonesian context. This study addresses this gap by providing baseline data that may inform future analytical and interventional research.

This study aims to find out the picture of family support and knowledge about the Dash diet in hypertensive patients in the Flamboyant Ward 8 of Dr. Moewardi Hospital. The results of this study are expected to provide knowledge for respondents in improving the hypertension DASH diet as well as family support in fulfilling the hypertension diet to prevent complications, for educational institutions it can be used as a basis for further research, adding knowledge, insights, skills, and experience in the health field, and for other researchers it is hoped that it can function as a reference or reference source for researchers He also wants to develop if more research is held.

RESEARCH METHOD

This study employed a quantitative observational design with a descriptive cross-sectional approach. The primary objective was to describe the distribution of family support and DASH diet knowledge among families of hypertensive patients; therefore, univariate analysis was considered appropriate for addressing the research aim. Design cross-sectional is a study to study the dynamics of the correlation between risk factors and effects, by approaching, observing, or collecting data at the same time (Point Time Approach) (Abduh). This research was conducted in Flamboyant Ward 8, Dr. Moewardi Hospital. The time for this research was conducted on March 17 – April 13, 2025. The population in this study is the family of hypertensive patients in Flamboyant Ward 8, Dr. Moewardi Hospital. The sample in this study was 82 respondents. The sampling method in this study uses accidental sampling, which is a technique for determining samples based on chance, i.e., anyone who happens to meet the researcher can be used as a sample (Abdulah). Accidental sampling was employed due to practical constraints within the

inpatient ward setting, where respondents were recruited based on availability during the data collection period. This approach was selected to ensure feasibility and timely data collection; however, it may increase the risk of selection bias. Therefore, the findings should be interpreted with caution and may not be generalizable to all families of hypertensive patients. Sampling was carried out after the patient's blood pressure was known through medical records in the Flamboyant Ward 8, Dr. Moewardi Hospital. The data collection technique used a family support questionnaire and a DASH diet knowledge questionnaire that had been tested for validity and reliability by previous researchers. The sample size consisted of all eligible respondents who met the inclusion criteria during the study period (total sampling of available respondents). A formal sample size calculation was not performed, which may limit the statistical power and generalizability of the findings. This limitation is acknowledged, and future studies are recommended to apply probability sampling with calculated sample sizes.

The inclusion criteria were family members of patients diagnosed with hypertension who were hospitalized in Flamboyant Ward 8, aged ≥18 years, able to communicate effectively, and willing to participate. Exclusion criteria included family members who were unavailable during data collection, declined participation, or were unable to complete the questionnaire due to cognitive or communication limitations.

The family support questionnaire used a Likert scale with positive statements, with 12 questions consisting of emotional support for questions 1-2, support for award questions 3-4, instrumental support for questions 5-8, and informational support for questions 9-12. Each question has 4 choices with the following criteria: always 4, often 3, sometimes 2, never = 1. The way this questionnaire is scored, Less = 12-24, Adequate = 25-37, Good = 38-48.

The DASH diet knowledge questionnaire uses the Guttmann scale, which is completely false. There are 30 statement items consisting of 21 favorable statements and 9 unfavorable statements. A favorable statement is a positive statement where, if it is true, the value is 1 (one); if the value is false, it is 0 (zero). The unfavorable statement is a negative statement. If the value is true, it is 0 (zero), and if the value is wrong, it is 1 (one). If the total score is <17, then knowledge is lacking; a score of 17-22 means knowledge is enough, and a score of 23-30 means knowledge is good.

The data analysis technique in this study, after obtaining data from the respondents, was then distributed as simple data in the form of "code" (numbers or letters). The data is then entered into the Microsoft Excel program before being transferred to the IBM SPSS system. This study was approved by the Health Research Ethics Committee of RSUD Dr. Moewardi, as documented in approval letter number 461/II/HREC/2025.

RESULTS

Based on the research conducted, as many meetings as one meeting were held from Monday, March 17, to April 13, 2025, in the flamboyant ward 8 of Dr. Moewardi Hospital, using a questionnaire measuring tool involving 82 respondents who met the inclusion criteria. The first week, on March 17-23, had 26 respondents; the second week, on 24-30, had 20 respondents; the third week, on March 31-April 6, had 13 respondents; the fourth week, on April 7-13, had 23 respondents.

Table 1. Characteristics of Respondents by Age (n = 82)

Age	Frequency	Percentage (%)
17-25 years old (late teens)	8	9,8
26-35 years old (early adult)	19	23,2
36-45 years old (late adult)	34	41,5
46-55 years old (early elderly)	18	22,0
56-65 years old (late seniors)	3	3,7
Total	82	100,0

Based on the results of data distribution based on the age of the respondents, the majority were aged 36-45 years old, with a total of 34 respondents (41.5%). This research is in line with research (Hendrawati, 2024) The results of the study showed that respondents aged 36-45 years (late adults) amounted to 39 respondents (37.9%) with a total sample of 103 respondents.

The older he gets, the more his catching and mindset will develop, so that the knowledge gained will improve better (São Paulo *et al.*, 2019). This research is in line with research conducted by (Squirt *et al*., 2019) which concludes that the older a person gets, the more knowledge they have, and the more information they obtain, which will increase their knowledge.

Table 2. Characteristics of respondents by gender (n = 82)

Gender	Frequency	Percentage (%)
Man	37	45,1
Woman	45	54,9
Total	82	100,0

Based on the results of the data distribution based on the age of the respondents, the majority were female, with a total of 45 respondents (54.9%). According to research conducted by Stephen (2019), which says that women have social relations with others in a familiar way compared to what men do, women will seek more information both directly and indirectly. Research conducted by Ray (2019) states that women have a very large concern and also a caring attitude. The results of this study are in line with the research (Rahman, 2023) which shows that the results of the study have the most gender, namely, the composition of 60 respondents (76.9%). Female gender seek information about the health of sick families more to achieve recovery than men *(Maria Orizani et al.*, 2018).

Table 3. Characteristics of Respondents by Education (n = 82)

Education	Frequency	Percentage (%)
No School	2	2,4
Elementary School	14	17,1
Junior High School	31	37,8
Vocational High School/Senior High School	32	39,0
Diploma 3/Bachelor's Degree	3	3,7
Total	82	100,0

Based on the results of data distribution based on the age of the respondents, the majority were educated in vocational school/high school, with a total of 32 respondents (39.0%). The results of this study are in line with the research (Farhah, 2021) The results of the study showed that respondents who had a high school/vocational education level amounted to 43, with a frequency of 45.3%, and a total of 95 respondents.

The results of this study are supported by Farhah (2021), who states that the level of education contributes to determining whether or not individuals can easily absorb and understand the knowledge they get; in other words, the higher the level of education, the better the person's knowledge of an object. Meanwhile, according to Melia & Kurniawati (020), the higher a person's level of education, the easier it is to understand health information, so that they are better able to control blood pressure. Education influences lifestyle, such as smoking habits, alcohol consumption, diet, and physical activity, which indirectly impact blood pressure.

Table 4. Family Support (n = 82)

Family Support	Frequency	Percentage (%)
Good	46	56,1
Enough	26	31,7
Less	10	12,2
Total	82	100,0

Based on the results of the data distribution based on the age of the respondents, the majority had a good level of family support, totaling 46 (56.1%) respondents. The family is the main source of the concept of healthy illness and healthy behavior and has an important role in promoting and strengthening patient behavior (Sumarni *et al*., 2021). The theory is also supported by journals that have been reviewed and obtained results that there is an adequate or positive relationship between family support and hypertensive dietary adherence. Thus, family support is a factor that cannot be ignored because support from family plays a very important role in providing support to patients who are on a hypertensive diet.

Overall, the findings indicate that more than half of respondents reported good family support, while less than half demonstrated good knowledge of the DASH diet. Emotional and instrumental support appeared more prominent than informational support. These results suggest that although family involvement is relatively strong, gaps remain in dietary knowledge that may affect optimal hypertension management.

Rather than reiterating the numerical values presented in the tables, the results highlight key patterns observed in the data. The majority of respondents reported good overall family support, particularly in the emotional and instrumental domains, indicating active family involvement in daily hypertension management. In contrast, knowledge of the DASH diet was less optimal, with fewer than half of respondents demonstrating good dietary knowledge. This discrepancy suggests that while families are generally supportive, informational support related to dietary management may be insufficient.

Family support is the ability of the family to provide time, attention, and assistance in meeting physical, mental, and social needs (Scarlet et al., 2025). Strengthened by research conducted by (Wahyudi & Nugraha, 2020) With the title "The relationship of family support in patients with high blood pressure in the control of hypertension," which states that a person will not meet physical or psychological needs alone, then we need the closest person first, namely, the support of the family. The support provided by the family is greatly influenced by education and age because the higher the education, the easier it is to behave well in supporting family members who are sick, and the older the age, the more the ability to grasp the mindset and life experiences will develop, so that the knowledge obtained will be better.

Previous research by Prihattiny (2020), in (Arindari & Rina, 2022) stated that family support with hypertension diet adherence in the elderly at the North Tomohon Health Center showed that of the 30 elderly respondents who received good family support, as many as 20 respondents (66.6%), This is in line with the results of Nita (2018), who

stated that of the 81 respondents, the majority received support from their families, namely 49 people (60.5%). The results of this study are in contrast to Figa's research, et al. (2019), which stated that the lack of assessment support received by patients was caused by the lack of concern of other family members for what the patient did, so that old age does not feel appreciated for their actions, and old age is more likely to experience mental disorders.

Family is the main support system for patients in maintaining their health. The role of the family in caring for the patient is to maintain and care for the patient's physical condition, improve the patient's mental status, anticipate social and economic changes, and provide motivation and facilitate the patient to meet his spiritual needs.

Table 5. Knowledge Level of the DASH Diet (n = 82)

Knowledge	Frequency	Percentage (%)
Good	37	45,1
Enough	31	37,8
Less	14	17,1
Total	82	100,0

Based on the results of the data distribution based on the age of the respondents, the majority had a good level of knowledge, with 37 respondents (45.1%). Knowledge is something that is known to be related to the learning process. The learning process is influenced by various factors from within, such as motivation and external factors in the form of available information facilities, as well as socio-cultural circumstances (Goodbye) et al., 2019).

This study focused on describing the distribution of family support and DASH diet knowledge among families of hypertensive patients. Therefore, inferential analysis examining the relationship between family support and DASH diet knowledge was not conducted. Nonetheless, the descriptive findings indicate that adequate family support does not always coincide with sufficient dietary knowledge, underscoring the need for future analytical studies to explore this relationship.

DISCUSSION

Age, gender, and education level are important sociodemographic factors that influence hypertension prevalence and management. Increasing age is associated with physiological changes such as arterial stiffness, which elevates blood pressure and increases the risk of hypertension. Gender differences may affect health-seeking behavior, with women generally demonstrating higher health awareness and engagement in disease management. Education level influences an individual's ability to understand health information, adopt recommended dietary patterns, and adhere to treatment plans. Higher educational attainment is commonly associated with better knowledge of hypertension management and healthier lifestyle choices.

Knowledge (Knowledge) is the result of a person's knowledge and experience in sensing a certain stimulus. Knowledge or cognitive domain is a very important part in shaping a person's actions (Norfai & Rahman, 2017). Knowledge is very closely related to education, where it is hoped that with higher education, the person will also have a wider range of knowledge. However, it needs to be emphasized that it does not mean that someone who is poorly educated is absolutely low-knowledgeable (Utami et al., 2018). A person's knowledge of an object contains 2 aspects, namely positive and negative aspects. These two aspects will determine a person's attitude, the more positive aspects and objects that are known, will cause a more positive attitude towards certain objects (Notoatmodjo, 2018).

This is in line with the results of the research (Farhah, 2021)Family knowledge about the hypertension diet in Bireuen Regency was in the good category, namely 44 respondents (46.3%). A person's knowledge is closely related to the action he will take, because the individual has a reason and a basis to make a choice (Kertapati, 2019). The results of this study are supported by research conducted by Kusumawardana et al. (2017) in (Farhah, 2021) It shows that people with hypertension who come from families with good knowledge of the hypertensive diet have better blood pressure control compared to those who come from families with poor knowledge related to the hypertensive diet.

Results of the research (Hanapia & Patimah, 2023) It is known that the level of knowledge of the family of patients with hypertension about hypertension management (49%), as many as 40 respondents are categorized as having less knowledge. This is due to the low level of education. Knowledge is influenced by educational level. The level of education affects a person's learning process because the higher the level of education, the easier it is to access information, both from other people and from other media.

Knowledge of the DASH diet in hypertensive patients is very important, because if the elements that cause hypertension are not controlled, it can lead to more severe complications such as stroke, heart failure, and kidney disease (Miller) et al., 2022). The management of hypertension includes not only pharmacological treatment but also non-pharmacological interventions, one of which is the application of the DASH diet (Cahyono, 2023). The DASH diet consists of a diet rich in fruits, vegetables, whole grains, and low-fat dairy products, and limits the consumption of salt, saturated fats, and added sugars. One of the important components of this diet is knowing and implementing a balanced and low-sodium diet, which plays a big role in lowering blood pressure naturally (Salsabila, 2019).

Rather than merely reiterating descriptive findings, this study demonstrates a notable discrepancy between relatively high levels of family support and only moderate levels of DASH diet knowledge. This finding suggests that family involvement alone may be insufficient to ensure adequate dietary understanding unless accompanied by targeted educational interventions. The predominance of emotional and instrumental support over informational support indicates that families may prioritize caregiving activities while lacking structured knowledge about dietary guidelines, which may limit the effectiveness of non-pharmacological hypertension management.

The findings of this study partially align with previous research reporting a positive role of family support in hypertension management. However, differences in study context should be considered. Unlike community-based studies conducted in primary care settings, this research was carried out in an inpatient hospital ward, where family members may have limited time and access to structured health education. This context may explain why adequate family support did not translate into higher levels of DASH diet knowledge, contrasting with studies conducted in outpatient or community environments where educational exposure is more continuous.

The cross-sectional design provides a snapshot of family support and DASH diet knowledge at a single point in time, allowing for efficient data collection in a clinical setting. However, this design limits the ability to assess temporal relationships or causal pathways between family support and dietary knowledge. Consequently, the findings should be interpreted as descriptive associations rather than indicators of directionality or effect, highlighting the need for longitudinal or interventional studies to explore causal mechanisms.

This study has several limitations. First, the cross-sectional design limits the ability to establish causal relationships between family support, knowledge of the DASH diet, and hypertension outcomes. Second, the use of accidental sampling may reduce the

generalizability of the findings to broader populations. Third, data were collected using self-reported questionnaires, which may be subject to recall bias and social desirability bias. Finally, the study was conducted in a single hospital setting, which may not fully represent hypertensive patients in different healthcare or community contexts.

Despite these limitations, the study provides valuable baseline insights into family support and DASH diet knowledge within an inpatient hypertension care setting, contributing to the foundation for future analytical and intervention-based research.

CONCLUSION

The findings of this study have important practical and policy implications. In clinical practice, healthcare providers should not only encourage family involvement in hypertension care but also ensure that families receive structured education regarding the DASH diet. Hospitals and primary healthcare facilities may consider integrating family-centered nutritional counseling into routine hypertension management programs. At the policy level, these results support the development of standardized educational materials and family-based intervention strategies to improve dietary knowledge and long-term adherence among hypertensive patients. This study contributes to the existing literature by providing baseline empirical data on family support and DASH diet knowledge among families of hypertensive patients in an inpatient hospital setting, a context that remains underrepresented in previous research. By highlighting the discrepancy between supportive behaviors and dietary knowledge, the study advances understanding of the multidimensional role of family involvement in non-pharmacological hypertension management and identifies areas for future analytical and interventional research.

RECOMMENDATIONS

Families are encouraged to actively participate in hypertension management by providing consistent emotional support, assisting with DASH diet implementation, and fostering a supportive home environment. Hypertension patients are advised to enhance their knowledge of dietary and lifestyle management and to engage family members in their care process. For future research, multicenter studies with larger sample sizes and longitudinal designs are recommended to better assess causal relationships and long-term outcomes. Further studies should also explore specific types of family support that most effectively improve dietary adherence and blood pressure control.

REFERENCES

Abduh, M. (2023). Jurnal Pendidikan Sains dan Komputer Survey Design : Cross Sectional dalam Penelitian Kualitatif Jurnal Pendidikan Sains dan Komputer. 3(1), 31–39.

Abdulah, K. (2022). Metodologi Penelitian Kuantitatif. In Yayasan Penerbit Muhammad Zaini.

Amelia, R., & Kurniawati, I. (2020). Hubungan Dukungan Keluarga Terhadap Kepatuhan Diet Hipertensi Pada Penderita Hipertensi Di Kelurahan Tapos Depok. Jurnal Kesehatan Saelmakers Perdana, 3(1), 77–90. http://ojs.ukmc.ac.id/index.php/JOH. https://doi.org/10.32524/jksp.v3i1.232

Arindari, D. R., & Rina, P. (2022). Hubungan Dukungan Keluarga Dengan Kepatuhan Diet Hipertensi Pada Lansia di Puskesmas Ariodillah. Excellect Midwifery Journal, 5(1), 95–103. https://doi.org/10.55541/emj.v5i1.201

Budiman, Riyanto, & Agus. (2019). Kapita Selekta Kuesioner Pengetahuan dan Sikap dalam Penelitian Kesehatan. Salemba Medika, 5(ISSN), 149–150.

Cahyono, A. (2023). Jurnal Pengembangan Ilmu Dan Praktik Kesehatan. VIII(I), 1–19.

Chacko, S., & Jeemon, P. (2020). dari studi cross-sectional di Distrik Kollam , Kerala [versi 1 ; tinjauan sejawat : 2 disetujui] Machine Translated by Google. 1–3.

Dinas Kesehatan. (2021). Jawa Tengah Tahun 2021. Profil Kesehatan Provinsi Jawa Tengah Tahun 2021, i–123.

Dinas Kesehatan Kota Surakarta. (2023). Profil Kesehatan Kota Surakarta 2023 Dinas Kesehatan Kota Surakarta. 1–207. www.dinkes.surakarta.go.id

Farhah, G. (2021). Pengetahuan Keluarga tentang Diet Hipertensi di Kabupaten Bireuen. Idea Nursing Journal, XII(3), 29–35. http://202.4.186.66/INJ/article/view/22400

Guo, R., Li, N., Yang, R., Liao, X. Y., Zhang, Y., Zhu, B. F., Zhao, Q., Chen, L., Zhang, Y. G., & Lei, Y. (2021). Effects of the Modified DASH Diet on Adults With Elevated Blood Pressure or Hypertension: A Systematic Review and Meta-Analysis. Frontiers in Nutrition, 8(September), 1–9. https://doi.org/10.3389/fnut.2021.725020

Hanapia, F. N., & Patimah, I. (2023). Gambaran Tingkat Pengetahuan Keluarga Penderita Hipertensi Terkait Manajemen Hipertensi. Medical-Surgical Journal of Nursing Research, 1(2), 90–96. https://doi.org/10.70331/jpkmb.v1i2.13

Hendrawati, N. (2024). Gambaran Kepuasan Keluarga Pasien Terhadap Kualitas Pelayanan Di Tempat Pendaftaran Pasien Rawat Inap Rumah Sakit Sari Asih Karawaci. Αγαη, 15(1), 37–48.

Kementerian Kesehatan RI. (2024). Kementerian Kesehatan RI (p. Kementerian Kesehatan RI).

Kertapati, Y. (2019). Tugas Kesehatan Keluarga dan Tingkat Kemandirian Keluarga di Wilayah Pesisir Kota Surabaya. Jurnal Ilmiah Keperawatan Stikes Hang Tuah Surbaya, 14(1). https://doi.org/10.30643/jiksht.v14i1.47

Kii, M. I., Soelistyoningsih, D., & Jayanti, N. D. (2021). Hubungan Dukungan Keluarga Dengan Kepatuhan Diet Rendah Garam Pada Penderita Hipertensi Sistolik. 2(3), 132–140. https://doi.org/10.33475/mhjns.v2i3.62

Kim, H. (2021). Machine Translated by Google Status diagnostik hipertensi berdasarkan kepatuhan pada pendekatan diet untuk menghentikan hipertensi Diet hipertensi (DASH) Hyun Kim , PhD , ÿ , Flavia CD Andrade , PhD Machine Translated by Google. 4(2016), 525–531.

Maria Orizani, C., Kurniawan, Y., & Puspitayanti, N. M. W. (2018). Dukungan Keluarga Dengan Frekuensi Kekambuhan Pasien Halusinasi Pendengaran Di Rumah Sakit Jiwa Menur Surabaya. Adi Husada Nursing Journal, 4(1), 8–12. https://doi.org/10.37036/ahnj.v4i1.108

Miller, H. N., Berger, M. B., Askew, S., Kay, M. C., Christina, M., Iragavarapu, M. S., Leon, M. De, Freed, M., Barnes, C., Yang, Q., Svetkey, L., Bennett, G. G., Steinberg, D. M., Keperawatan, S., & Duke, U. (2022). Akses Publik HHS. 1–22. https://doi.org/10.1016/j.cct.2021.106539

Norfai, & Rahman, E. (2017). Hubungan Pengetahuan Dan Kebiasaan Menggosok Gigi Dengan Kejadian Karies Gigi Di Sdi Darul Mu'Minin Kota Banjarmasin Tahun 2017. Dinamika Kesehatan, 8(1), 212–218.

Notoatmodjo, S. (2018). Ilmu perilaku kesehatan. Jakarta : Rineka Cipta.

Pardede, V., Wahyu, A., Keperawatan, F. I., Murni, U., & Medan, T. (2025). Hubungan Dukungan Keluarga dengan Kepatuhan Diet Rendah Garam pada Pasien Hipertensi di GB3 Murni Teguh Memorial Hospital Medan. https://doi.org/10.61132/obat.v3i1.998

Rahman, A. V. (2023). Hubungan Tingkat Pengetahuan Dan Dukungan Keluarga Dengan Kepatuhan Diet pada penderita hipertensi. Universitas Islam Sultan Agung, 01(02), 13–19. http://eprints.poltekkesjogja.ac.id/7640/

Reyes-garcía, A., Olmedo, N. L., Abreu, A. B., & Levy, T. S. (2022). Machine Translated by Google Laporan Pengobatan Pencegahan Kepatuhan terhadap diet DASH berdasarkan status hipertensi pada pria dan wanita Meksiko : Sebuah studi cross-sectional Machine Translated by Google. 27(November 2021).

Salsabila, R. (2019). Analisis Penerapan Dietary Approaches to Stop Hypertension (DASH) pada Penderita Hipertensi. 1(1), 1–15.

Surani, V., Lilik Pranata, Teresia Erina Sestiyowati, Dini Anggraini, & Sindi Ernawati. (2022). Relationship between Family Support and Self-Care in Hypertension Patients. Formosa Journal of Multidisciplinary Research, 1(7), 1447–1458. https://doi.org/10.55927/fjmr.v1i7.1784

Utami, N. A., Sulisetyawati, S. D., & Adi, G. S. (2018). Hubungan pengetahuan tentang diet dash (dietary approach to stop hypertension) dengan tingkat hipertensi di posbindu seroja bekonang kecamatan mojolaban. Jurnal Forum Kesehatan, 51(1), 15–25.

Wahyudi, W. T., & Nugraha, F. A. (2020). Hubungan Dukungan Keluarga Pada Pasien Dengan Tekanan Darah Tinggi Dalam Pengendalian Hipertensi. Tjyybjb. Ac.Cn, 27(2), 58–66. https://doi.org/10.33024/mnj.v2i3.2566

World Health Organization. (2024). Hari Hipertensi Sedunia 2024: Ukur Tekanan Darah Anda Secara Akurat, Kendalikan, Hidup Lebih Lama. In Who. https://www.who.int/srilanka/news/detail/17-05-2024-world-hypertension-day-2024--measure-your-blood-pressure-accurately--control-it--live-longer

Yuswantina, R. Y., Dyahariesti, N. D., Fitra Sari, N. L., & Kurnia Sari, E. D. (2019). Hubungan Faktor Usia dan Tingkat Pendidikan Terhadap Pengetahuan Penggunaan Antibiotik di Kelurahan Sidorejo Kidul. Indonesian Journal of Pharmacy and Natural Product, 2(1), 1–23. https://doi.org/10.35473/ijpnp.v2i1.193