

A family medicine case report of uncontrolled grade 2 hypertension in MRS. A

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ABSTRACT

Hypertension is a condition in which systolic blood pressure is ≥ 140 mmHg and/or diastolic blood pressure is ≥ 90 mmHg after repeated measurements in a clinic or health care facility. Based on the results of *RISKESDAS* in 2018, Banten Province has a prevalence of hypertension amount 29.4%. Based on data at the Kresek Health Center in July-December 2021 which mentioned that hypertension was the disease with the most cases in the working area of the Kresek Primary Health Centerv(*Puskesmas*). In order to assess the problem, this study used the family medicine approach and the Mandala of Health as the problem assessment to determine the factors that cause uncontrolled hypertension. A 66-year-old woman came to Kresek *Puskesmas* with hypertension since 6 years ago. The patient has complaints of pain all over the head. She claimed routinely take drugs prescribed by the *Puskesmas*, but not routinely control blood pressure. Thus, blood pressure is still not controlled. After the intervention, the patient's complaints became reduced and her blood pressure decreased from 160/100 to 140/90. In addition, she obtained a family understanding of hypertension, factors that cause uncontrolled hypertension, as well as complications that can occur due to hypertension. The discovery of factors caused uncontrolled hypertension in patients. It is expected that she can improve her lifestyle to be better so that complications from hypertension do not occur.

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INTRODUCTION

Family medicine is a medical discipline that studies the dynamics of family life, the effect of disease on family functioning, the effect of family function on the occurrence and development of disease, ways of approaching health to restore bodily functions, as well as family functions so that they are in a normal condition (Grierson & Vanstone, 2021; O'Donnell et al., 2012; Sukmawati E et al., 2018). Every doctor who devotes himself to the medical and health professions has the knowledge and skills through special education in the field of family medicine who has the authority to practice it. The diagnosis of hypertension is enforced if the TDS is ≥ 140 mmHg and/or the BP is ≥ 90 mmHg at measurements at a clinic or primary health service facility (Bavanandam, 2018; Mills et al., 2020).

Based on the data and information center of the Indonesian Ministry of Health, the definition of hypertension or high blood pressure is an increase in systolic blood pressure of more than 140 mmHg and diastolic blood pressure of more than 90 mmHg in two measurements with an interval of five minutes in a state of sufficient rest or calm (Litwin & Kułaga, 2021; P2PTM Kemenkes RI, 2020)

The World Health Organization (WHO) estimates that the global prevalence of hypertension is 22% of the total world population. Based on these sufferers, only less than one-fifth make efforts to control their blood pressure. The African region has the highest prevalence of hypertension at 27% (KEMENKES RI, 2021; Sukmawati, 2017). The Eastern Mediterranean is in the second highest position with a prevalence of 26% of the total population. Southeast Asia is in the 3rd highest position with a prevalence of 25% of the total population. Moreover, WHO also estimates that 1 in 5 women worldwide has hypertension. This number is greater among the male group, which is 1 in 4 people (World Health Organization, 2020). In Indonesia, based on the results of the 2018 Basic Health Research, the incidence of hypertension was 34.1% in people aged 18 years and over, where this figure has increased quite high compared to *Riskesdas* results in 2013 amounted to 25.8% (KemenKes, 2019). The 2018 *Riskesdas* results show that Banten Province has a prevalence of 29.47%. The results for 2021 data from the *Kresek Puskesmas* are 2.171 cases. This result shows a decrease compared to 2020 data, that was 2.210 cases. Even though there has been a decrease of 39 cases, hypertension is still the first most common case occurred in the working area of the *Kresek Puskesmas* until today.

Patient with initial Mrs. A, 66 years old, is a resident of the *Kresek Puskesmas* who has been suffering from hypertension since 6 years ago. She has complaints of pain throughout the head. She also admits that she regularly takes the medicine prescribed by the *Puskesmas*, but does not routinely come for control. So, her blood pressure is still not controlled. The reason why she does not routinely come for control because she must be accompanied by her nephew due to cannot drive a vehicle and public transportation is on a highway far from the patient's home, no family member who lives in the same house who can accompany her. If she walks traveling of about three kilometers, and when the medicine runs out, she will take it with her nephew to buy medicine. It is interesting to do a family visit with the aim of knowing the cause of the patient's uncontrolled blood pressure even though she has been taking medication regularly for 6 years. It is to prevent if there will be complications, such as heart disease, kidney disease, and stroke.

RESEARCH METHOD

This type of research is a case study (Fajarwati & Irianto, 2021; Sugiyono, 2017, 2019). The study was conducted at the working area of *Kresek Primary Health Center (Puskesmas)*, Sub-District of *Kresek*, Tangerang Regency, Banten Province. Techniques for analyzing and handling cases used a family medicine approach (American Academy of Family Physician (AAFP), 2019; Maramis, 2014).

RESULTS AND DISCUSSIONS

A 66-year-old woman with initial Mrs. A has been examined with complaints of pain all over her head that comes and goes and gets worse since a day ago with a pain scale of 5 out of 10. The patient also does not have regular monthly visits to the *Puskesmas*. In addition to complaints of a heavy head, patients also complaint of throbbing headaches that come and go, and do not get better even when resting or sleeping. These complaints do not get worse when the patient is doing activities. The patient admits that she regularly takes the medicine prescribed by the *Puskesmas*, but does not routinely come for control. So, her blood pressure is still not controlled.

The diagnosis of hypertension is enforced if the TDS is ≥ 140 mmHg and/or the BP is ≥ 90 mmHg at measurements at a clinic or health service facility (Indonesian Hypertension Doctors Association, 2021). Based on the data and information center of the Indonesian Ministry of Health,

the definition of hypertension or high blood pressure is an increase in systolic blood pressure of more than 140 mmHg and diastolic blood pressure of more than 90 mmHg in two measurements with an interval of five minutes in a state of sufficient rest/calm.

Confirmation of the hypertension diagnosis cannot rely solely on one examination, except in patients with very high blood pressure, for example grade 3 hypertension or there is evidence of target organ damage due to hypertension. In primary health care/*Puskesmas*, the diagnosis of hypertension is prescribed by a doctor, after getting an increase in blood pressure $\geq 140/90$ mmHg when either systolic or diastolic increases, in two measurements one week apart. Out-of-clinic blood pressure measurement strategies (HBPM or ABPM) for confirmation of the diagnosis of hypertension are strongly recommended if available. Monitoring blood pressure at home can detect 'white coat hypertension' (a rise in blood pressure due to anxiety about seeing a doctor, so that blood pressure measured at health services is higher than at home).

During the physical examination conducted on April 28, 2022, the patient was conscious, her general condition appeared to be mildly ill with an underweight nutritional status. On examination of vital signs, blood pressure was 160/100 mmHg, pulse 86 times/minute, respiratory rate 20 times/minute, regular, thoracoabdominal, and temperature of 36.6°C on the forehead. Examination of the lipid profile by Mrs. A on May 9, 2022 found total cholesterol of 134 mg/dL. The patient's working diagnosis was Grade II hypertension. The therapy that has been given was Amlodipine tablets PO 1x5 mg at night, paracetamol tablets PO 3x500 mg p.r.n. headache, and vitamin B complex tablets PO 1x1. Non-pharmacological therapy that has been given by the *Puskesmas*, namely by explaining to patients about hypertension from clinical symptoms, plans for both pharmacological and non-pharmacological therapy, taking drugs according to recommendations, limiting consumption of sugar, salt, and fat, suggest consuming nutritious foods, such as fruit and vegetables (at least 5 servings per day), regarding complications that may occur, the disease and the patient's suffering, preventing of complications from the patient's disease, doing physical activity and increasing body weight, as well as doing regular control to the health center about the patient's illness considering the possibility of complications and a chronic disease.

Based on personal aspects, holistic diagnostic results showed that the head feels heavy and the waist down to the feet hurts since the day before the first history taking at the *Puskesmas*. In terms of clinical aspects, the main diagnosis was found, that was Grade II uncontrolled hypertension with additional diagnoses, namely suspected low back pain, underweight, and post cataract surgery OD. On the internal aspect, it is known that Mrs. A admitted that she did not understand some factors, such as hypertension and susceptibility to low back pain and their complications, the importance of controlling medication and taking medication regularly according to recommendations, the importance of routine blood pressure monitoring at health facilities, not pay attention to diet and types of food that needed to be restricted for consumption, never did work out and a genetic history of hypertension from Mrs. A that could be passed on to their children.

On the external aspect of the family, Mrs. A lacks knowledge about hypertension and low back pain. She has a lack of knowledge and care about foods to be avoided, and to take the drug regularly. Husband and child of Mrs. A did not understand the importance of physical activity in controlling hypertension. There were no regular visits from health workers and cadres at the *Kresek Puskesmas* and lack of education regarding hypertension and risk factors that could occur.

The intervention that was carried out was by conducting a visit family medicine approach. The first visit was carried out on April 28, 2022 at 08.30 WIB at the elderly polyclinic at the *Kresek Puskesmas*. Activities carried out in the form of introducing oneself, taking anamnesis, anthropometric examination, physical examination, checking blood pressure, explaining the plan and purpose of visiting, as well as managing patients. Perform informed consent to Mrs. A was approved by Mrs. A for interventions and visits. Blood Pressure showed 160/100 mmHg.

The second visit was carried out on May 6, 2022 at 13.00 WIB located in Mrs. A's house. The activities carried out were conducting further history taking, looking at the patient's home and home environment, inquiring more deeply about complaints, family tree, family life, eating patterns, habits and daily life of the patient and his family, carrying out a physical examination, and checking blood pressure. Blood Pressure 160/90 mmHg. Then, the third visit was carried out on May 9, 2022 at 09.00 WIB at the elderly polyclinic at the Kresek *Puskesmas* to control complaints, patient blood pressure, medication adherence, and patient eating patterns. Blood Pressure showed 160/90 mmHg, and Total Cholesterol of 134 g/dl. Meanwhile, the last visit was carried out on May 20, 2022 at 10.30 WIB located in the elderly polyclinic at the Kresek *Puskesmas*. The activities was carried out in the form of education and evaluation of medication adherence, diet, and physical examination. In this situation, Blood Pressure was 140/90 mmHg.

The results of the management which has been carried out by Mrs. A from internal factor that Mrs. A understands some types of hypertension and low back pain, risk factors, disease course, management, complications, and what to do if she suffers from hypertension and low back pain, the importance of adherence to taking medication for life, and goes to the *Puskesmas* regularly, the benefits of vegetables and fruit who can help maintain blood pressure, already consuming 2 small bowls of vegetables and fruit a day, some foods to avoid and try to start implementing the DASH diet, and do physical activity, namely walking leisurely 3 times a week with a duration of 15-30 minutes per time such as and exercise hypertension every day at home.

Meanwhile, in terms of external factors, Mrs. A already understands hypertension and low back pain, including definitions, causes, risk factors, signs and symptoms, management, complications, and also the prevention. Patient's family of Mrs. A, regarding what foods should be avoided by her, such as too salty and high in fat foods, and Mrs. A has started on the daily DASH diet. Her children also understand the importance of going to the health center every 6 months because she has risk factors for hypertension that can be passed on to them and starts a low-salt diet by consuming home-cooked food with reduced salt levels used. The patient's family also understands the complications that can occur if she does not take medication regularly can cause hypertension and low back pain.

Management of hypertensions are classified into non-pharmacological and pharmacological. Non-pharmacological management includes lifestyle modifications. These efforts can reduce blood pressure or the dependence of hypertensive patients on the use of drugs. Meanwhile, pharmacological management is generally carried out by giving anti-hypertensive drugs at the *Puskesmas*. If non-pharmacological and pharmacological efforts have not been able to achieve what is expected, the *Puskesmas* can refer patients to secondary health services of hospitals which causes visual disturbances.

In treating hypertension, it is also necessary to manage other cardiovascular risk factors, organ damage, and co-morbidities (Mills et al., 2020; Singh et al., 2017). This treatment is generally carried out in secondary or tertiary health care facilities. Target organ complications that may occur include: coronary heart disease and stroke, heart failure, kidney failure, peripheral vascular disease, and retinal blood vessel damage which results in impaired vision (Dlamini et al., 2019; Perhimpunan Dokter Hipertensi Indonesia, 2021).

Treatment of hypertension aims to control morbidity, complications, and mortality due to hypertension (Sukmawati, 2017; Wright et al., 2019). Pharmacological therapy for hypertension can be carried out at the *Puskesmas*, as initial treatment. Various clinical studies have proven that anti-hypertensive drugs given on time can reduce the incidence of stroke by 35-40%, myocardial infarction by 20-25%, and heart failure by more than 50%. Treatment of hypertension begins with a single drug that has a long acting period so that it can be given once a day and the dose is titrated. Subsequent drugs may be added during the first few months of therapy (Kapral & Bushnell, 2021; Unger et al., 2020).

The actions that have been taken above are in accordance with the principles of family doctor services in Indonesia, following WHO and WONCA recommendations. These principles are also the conclusions to be able in improving the quality of primary physician services in carrying out medical services. The principles of service/approach to family medicine are to provide and realize a holistic and comprehensive service by providing a plenary service, namely conducting an overall examination by considering rationality and benefits for the patient regarding humans from all aspects, biological, psychological to social aspects (Han & goleman, daniel; boyatzis, Richard; Mckee, 2019).

The actions that have been taken above are in accordance with the principles of family doctor services in Indonesia, following WHO and WONCA recommendations. These principles are also the conclusions to be able in improving the quality of the *Puskesmas* physician services in carrying out medical services. The principles of service or approach to family medicine are to provide and realize a holistic and comprehensive service by providing a plenary service, namely conducting an overall examination by considering rationality and benefits for the patient regarding humans from all aspects, biological, psychological to social aspects (Singh et al., 2017).

As a primary care doctor, the family doctor is the first point to contact with the patient, regardless of gender, age, chief complaint, or organ system disorder. The family doctor has to maintain continuity of service, which means monitoring the course of the patient's illness continuously so that a relationship based on trust is formed. Family doctors must try to improve the health of each patient they are responsible for by preventing problems that affect the physical and emotional states (Alkaff et al., 2021; O'Donnell et al., 2012).

The services carried out are also coordinative and collaborative. Collaborative services mean working together with various parties related to health services, to make services effective and efficient so that patient recovery can be achieved. Family doctors not only consider medical aspects but also economic, social and cultural aspects, so they often need to involve or collaborate with various parties. The starting point for family doctor services is the service of an individual as an integral part of his family (American Academy of Family Physician (AAFP), 2019).

In treating patients, keep in mind that patients are an integral part of their families and communities. The healing of disease is greatly influenced by the environment. The conversely patient's disease can also affect the environment. The services carried out also uphold ethics, morals, and law. Ethics must be considered by family doctors in every action taken, such as asking for informed consent of the patient to notify the disease to the family and before carrying out medical action on the patient. The most important thing is to realize that any negligence can lead to legal problems by considering the "cost effectiveness" of the costs incurred by the patient. Cost must be a consideration but must not reduce the quality of service.

As long as a doctor works based on the SOP enforced, a medical audit will not have a bad impact. The application of "evidence based medicine" as a tool for planning medical action is the best way to create accountable services. The services of a doctor must be fair and do not discriminate between men and women and must avoid gender stereotypes, such as emotional women and rational men. The actions taken are in accordance with the goals to be achieved in family medicine services, namely health services for individuals and families as well as communities that are of good quality but controlled by costs, which is reflected in the management of health services provided by family doctors, so that family health problems are resolved and create a happy family, participative, healthy physically, mentally, and socially which enables every member of the family to live productively both socially and economically (American Academy of Family Physician (AAFP), 2019; D & Nusadewiarti, 2020).

CONCLUSION

In providing a statement that what is expected, as stated in the "Introduction" chapter, it can ultimately result in "Results and Discussion" chapter, so there is compatibility. Moreover, it can

also be added the prospect of the development of research results and application prospects of further studies into the next research (based on result and discussion).

References

- Alkaff, F. F., Illavi, F., Salamah, S., Setiyawati, W., Ramadhani, R., Purwantini, E., & Tahapary, D. L. (2021). The Impact of the Indonesian Chronic Disease Management Program (PROLANIS) on Metabolic Control and Renal Function of Type 2 Diabetes Mellitus Patients in Primary Care Setting. *Journal of Primary Care and Community Health*, 12. <https://doi.org/10.1177/2150132720984409>
- American Academy of Family Physician (AAFP). (2019). *Family Medicine*.
- Bavanandam, S. (2018). PORTAL HYPERTENSION. *Indian Journal of Practical Pediatrics*, 20(3). <https://doi.org/10.1177/87564790122250426>
- D, Y. T. P., & Nusadewiarti, A. (2020). Penatalaksanaan Pasien Diabetes Melitus Tipe 2 dengan Neuropati dan Retinopati Diabetikum Melalui Pendekatan Kedokteran Keluarga. *Medula*, 9.
- Dlamini, Z., Hull, R., Makhafola, T. J., & Mbele, M. (2019). Regulation of alternative splicing in obesity-induced hypertension. In *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy* (Vol. 12). <https://doi.org/10.2147/DMSO.S188680>
- Fajarwati, M. I., & Irianto, S. (2021). PENGEMBANGAN MEDIA ANIMAKER MATERI KELILING DAN LUAS BANGUN DATAR MENGGUNAKAN KALKULATOR DI KELAS IV SD UMP. *EL-Muhbib: Jurnal Pemikiran Dan Penelitian Pendidikan Dasar*, 5(1). <https://doi.org/10.52266/el-muhbib.v5i1.608>
- Grierson, L., & Vanstone, M. (2021). The rich potential for education research in family medicine and general practice. *Advances in Health Sciences Education*, 26(2). <https://doi.org/10.1007/s10459-020-09994-7>
- Han, E. S., & goleman, daniel; boyatzis, Richard; Mckee, A. (2019). Data WHO. *Journal of Chemical Information and Modeling*, 53(9).
- Kapral, M. K., & Bushnell, C. (2021). Stroke in women. In *Stroke*. <https://doi.org/10.1161/STROKEAHA.120.033233>
- KemenKes. (2019). *Laporan Riskesdas 2018*. Jakarta: Kementerian Kesehatan RI.
- KEMENKES RI. (2021). Profil Kesehatan Indonesia 2020. In *Kementerian Kesehatan Republik Indonesia*.
- Litwin, M., & Kulaga, Z. (2021). Obesity, metabolic syndrome, and primary hypertension. *Pediatric Nephrology*, 36(4). <https://doi.org/10.1007/s00467-020-04579-3>
- Maramis, W. F. (2014). Kedokteran Keluarga = Family Medicine. *Jurnal Widya Medika*, 2(2).
- Mills, K. T., Stefanescu, A., & He, J. (2020). The global epidemiology of hypertension. In *Nature Reviews Nephrology* (Vol. 16, Issue 4). <https://doi.org/10.1038/s41581-019-0244-2>
- O'Donnell, E. M., Berkman, L. F., & Subramanian, S. V. (2012). Manager support for work/family issues and its impact on employee-reported pain in the extended care setting. *Journal of Occupational and Environmental Medicine/American College of Occupational and Environmental Medicine*, 54(9), 1142.
- P2PTM Kemenkes RI. (2020). Apa itu Hipertensi (Tekanan Darah Tinggi) ? - Direktorat P2PTM. In *Kementerian Kesehatan Republik Indonesia* (Issue April 2020).
- Perhimpunan Dokter Hipertensi Indonesia. (2021). Konsensus Penatalaksanaan Hipertensi 2021 : Update Konsensus PERHI 2019. *Perhimpunan Dokter Hipertensi Indonesia*.
- Singh, S., Shankar, R., & Singh, G. P. (2017). Prevalence and Associated Risk Factors of Hypertension: A Cross-Sectional Study in Urban Varanasi. *International Journal of Hypertension*, 2017, 5491838. <https://doi.org/10.1155/2017/5491838>
- Sugiyono. (2017). *metode penelitian kualitatif, kuantitatif, dan R&D*. Alfabeta.
- Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D* (1st ed.). Penerbit Alfabeta.
- Sukmawati, E. (2017). Efektifitas Konsumsi Buah Pisang Ambon Untuk Menurunkan Hipertensi Pada Ibu Usia Reproduksi Sehat. *2-Trik: Tunas-Tunas Riset Kesehatan*, 7(2).
- Sukmawati E, wahyunita yulia sari, & indah sulistyoningrum. (2018). *Farmakologi Kebidanan*. Trans Info Media (TIM). <https://scholar.google.com/scholar?oi=bibs&cluster=1176077044389442881&btnI=1&hl=id>
- Unger, T., Borghi, C., Charchar, F., Khan, N. A., Poulter, N. R., Prabhakaran, D., Ramirez, A., Schlaich, M., Stergiou, G. S., Tomaszewski, M., Wainford, R. D., Williams, B., & Schutte, A. E. (2020). 2020 International society of hypertension global hypertension practice guidelines. In *Journal of Hypertension* (Vol. 38, Issue 6). <https://doi.org/10.1097/HJH.0000000000002453>
- World Health Organization. (2020). OMS | Hipertensión. In *Who*.

Wright, D., Tan, M. Y., O’Gorman, N., Poon, L. C., Syngelaki, A., Wright, A., & Nicolaides, K. H. (2019). Predictive performance of the competing risk model in screening for preeclampsia. *American Journal of Obstetrics and Gynecology*, 220(2). <https://doi.org/10.1016/j.ajog.2018.11.1087>