



HEALTH CHECKUP BEHAVIOR OF ELDERLY WITH HIGH RISK OF HEART DISEASE

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ABSTRACT

Health complaints that are often felt by the elderly such as coughs, fever, heat, diarrhea, headaches, and even complaints of disability, accidents, and chronic diseases that have been suffered. One of them is cardiovascular disease, namely heart disease which is a non-communicable but very deadly disease. Indonesia has a prevalence of heart disease that has tripled from 2013 to 2018 so this study aims to determine health examination behavior to identify the proportion of elderly people who have a high risk of heart disease. This study uses quantitative research with descriptive methods with a cross sectional study approach. The distribution of elderly behavior in conducting routine health checks was 52 (57.1%). There were 72 (79.1%) elderly with hypertension, 53 (58.2%) with high blood cholesterol and 10 (11%) with high blood sugar. These results explain that the high risk of heart disease in the elderly is still very high, therefore the behavior of the elderly in Jatinangor especially at Cipacing and Cilayung are really needs to be improved. The results of blood pressure checks, blood cholesterol levels and abnormal blood sugar levels need attention for health workers in the public health center area.

Keywords: elderly; health checkup; high risk of heart disease

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INTRODUCTION

The phenomenon of an aging population structure has occurred in Indonesia since 2021, where this phenomenon is an increasing number of elderly people, namely 1 in 10 Indonesians are elderly. The elderly population is the population aged more than 60 years, which consists of three levels, namely young elderly (aged 60-69 years), middle elderly (aged 70-79 years), and old elderly (aged 80 years and over). In terms of health, two in five (42.9%) elderly people complained about their health. Complaints such as coughs, colds, fever, diarrhea, headaches, and even complaints of disability, accidents, and chronic diseases that have been suffered (Badan Pusat Statistik, 2022a). The increase in the elderly population occurs due to the higher life expectancy in Indonesia. The life expectancy rate for men increased from 69.59% (2020) to 69.93% (2022) and for women from 73.46% (2020) to 73.83% (2022). (Badan Pusat Statistik, 2022b). This is one of Indonesia's successes in achieving national development, especially in the health sector, as evidenced by the increase in life expectancy (AHH). Special attention in the health sector must be prioritized to maintain and improve the welfare and ability of the elderly so that their physical, mental and social conditions can function properly. One of the problems that can arise if the elderly do not get

good welfare services is the increasing burden of infectious and non-communicable diseases (Misnaniarti, 2017).

One of the non-communicable diseases according to the Ministry of Health of the Republic of Indonesia is cardiovascular disease. Cardiovascular diseases are a group of heart diseases that are one of the many diseases that cause death in the world every year. It is called deadly because the main cause is the presence of heart function disorders and blood vessel disorders in the body. Some of the factors that cause heart disease are old age, high cholesterol levels, high blood sugar and high blood pressure (Juslim & Herawati, 2018). Elderly people who have been affected by diseases, such as heart disease, can cause a situation where the elderly can no longer achieve the goal of life to become healthy aging. The elderly will also experience increased dependence on people around them with the aim that the elderly are still monitored for their health so that the disease does not get worse (Ambarita et al., 2021). Basic Health Research data explains that Indonesia has a threefold increase in the prevalence of heart disease. The data shows from 0.5% (2013) increased to 1.5% (2018). This increase in prevalence is due to the increasing elderly population in Indonesia, as the elderly are the largest number of age groups that experience heart disease. One of the other causes is due to changes in lifestyle that reduce the quality of one's health, such as not maintaining a diet and rarely doing exercise. In 2018 there were 73,285 people or around 1.6% of people with heart disease in West Java. This also explains that heart disease patients in West Java exceed the national average of heart disease patients (1.5%) (Kemenkes RI, 2018).

There are several factors that cause a person to develop heart disease such as age, female gender, hypertension, diabetes mellitus, high blood cholesterol, and smoking. The dominant factors that cause heart disease in Indonesia are hypertension and diabetes mellitus, where the cause of diabetes mellitus is due to high blood sugar levels for a very long time without treatment (Ghani et al., 2016). Sumedang is one of the districts in West Java that has 295,651 people with hypertension and the third highest number of people with diabetes mellitus in West Java, which is 79,656 people (Dinkes Jawa Barat, 2020). Related to hypertension which is one of the dominant factors causing heart disease, hypertension is the number one disease of the ten most common diseases in Sumedang Regency and it is explained that hypertension reaches 25% of the chart of patient visits to health centers in Sumedang Regency (Dinas Kesehatan Kabupaten Sumedang, 2021). One of the sub-districts in Sumedang, Jatinangor, has a prevalence of patient visits with hypertension of 9,656 out of 105,522 residents. This shows that the risk of heart disease through the number of people with diabetes mellitus in Sumedang Regency and people with hypertension in Jatinangor District is still very high (Dinas Kesehatan Kabupaten Sumedang, 2018).

Heart disease is one of the chronic non-communicable diseases that is difficult to overcome, including difficult to rehabilitate. Health checks and providing information is one way to prevent an increase in heart disease patients. Health checks are also carried out in order to cope with the physiological decline of the elderly body, these checks can be in the form of checking blood pressure, blood sugar and cholesterol (D. Rahayu et al., 2021). In accordance with Leavel and Clark's theory of early diagnosis and prompt treatment, it is specifically for someone who has risk factors for disease. This makes regular health checks for the elderly very necessary (Ira Nurmala .. [et al.], 2022). According to Avicena (2023), it is very important to conduct routine health checks once a month in the elderly in order to find out and detect early diseases contained in one's body (Marsanti et al., 2023). The risk of heart disease includes very many cases in Jatinangor District, so the general purpose of this study was to determine how the description of elderly behavior in preventing disease risk by looking at the

results of blood pressure, blood cholesterol, and blood sugar levels during the elderly in Cipacing Village and Cilayung Village in Jatinangor District. The specific objectives of this study were to identify the proportion of elderly people who conduct regular health checks and to find out how many elderly people have a risk of heart disease.

METHOD

This study uses quantitative research with descriptive methods to determine the description of elderly behavior in conducting health checks as an effort to prevent the increase in heart disease sufferers with a cross sectional study approach. The population participating in this study were elderly people who were local residents aged ≥ 60 years. The sample used in this study were elderly people who were willing to check blood pressure, blood cholesterol, blood sugar and were willing to be asked about their habits in conducting health checks. This examination was also carried out with a total of 91 respondents to find out whether the elderly had a high risk of heart disease. The sampling technique in this study was incidental sampling. The instruments used in this study are questionnaires of the perpetrators in conducting health checks and the results of blood pressure, blood cholesterol, and blood sugar checks. The data will also be analyzed using univariate analysis carried out to describe the frequency distribution of health examination behavior carried out by the elderly to prevent the risk of heart disease. This study has obtained ethical permission by the Padjadjaran University Ethics Committee Number 626 of 2023. Data collection for this study was conducted in September 2023 in Jatinangor District, Sumedang Regency.

RESULTS

Table 1.
Frequency and Percentage of Elderly Characteristics (n=91)

| Variable | f | % |
|------------------------------------|----|------|
| Gender | | |
| Male | 31 | 34,1 |
| Female | 60 | 65,9 |
| Age | | |
| Elderly (60-74) | 77 | 84,6 |
| Old (75-90) | 13 | 14,3 |
| Very Old (>90) | 1 | 1,1 |
| Family History of Hypertension | | |
| Yes | 44 | 48,4 |
| No | 47 | 51,6 |
| Family History of diabetes | | |
| Yes | 18 | 19,8 |
| No | 73 | 80,2 |
| Family History of Heart Disease | | |
| Yes | 12 | 13,2 |
| No | 79 | 86,8 |
| Family History of High Cholesterol | | |
| Yes | 23 | 25,3 |
| No | 68 | 74,7 |

Table 1 shows that more than half of the respondents were elderly women (65.9%) with the most age in the range of 60-74 years (84.6%). The highest family health history was a family history of hypertension (48.4%) from a family history of diabetes, heart disease and high cholesterol.

Table 2.
Frequency and Percentage of Elderly Health Check Results (n=91)

| Variable | f | % |
|-------------------|----|------|
| Blood Pressure | | |
| Normal | 19 | 20,9 |
| High Risk | 72 | 79,1 |
| Blood Cholesterol | | |
| Normal | 38 | 41,8 |
| High Risk | 53 | 58,2 |
| Blood Sugar | | |
| Normal | 81 | 89 |
| High Risk | 10 | 11 |

Table 2 shows that from the elderly health check, the results of blood pressure (79.1%) and blood cholesterol (58.2%) are more than half of the respondents have a high risk of developing heart disease. The results of the blood sugar examination, only 11% have a high risk of heart disease.

Table 3.
Frequency and Percentage Distribution of Special Data (n=91)

| Variabel | f | % |
|-----------------------------------|----|------|
| Routine Checkup | | |
| Yes | 52 | 57,1 |
| No | 39 | 42,9 |
| Ever Had Health Program Education | | |
| Yes | | |
| No | 47 | 51,6 |
| Ever Had Diabetes Education | | |
| Yes | 29 | 31,9 |
| No | 62 | 68,1 |

Table 3 explains that more elderly people have routinely conducted health checks (57.1%) and received education about health programs (51.6%). While education related to diabetes, there are still as many as 68.1% of elderly people who have not received this education.

DISCUSSION

The behavior of health checks carried out regularly by 57.1% of the elderly, responded directly by respondents that in old age there will be very many diseases that are invited or uninvited due to age factors. This explanation is accompanied by the incidence of elderly people who often feel healthy and fit but apparently there are diseases that have no symptoms. This behavior is influenced by the results of data obtained by researchers that more elderly people have received health program education. One of the health programs obtained by respondents is to invite the elderly to carry out routine health checks, this result is evidenced in the number of elderly people who carry out routine health checks. According to Erika (2020), that after the health education program for the elderly was carried out, it turned out to increase the awareness of the elderly to always maintain their health by conducting routine controls both at the public health center and integrated healthcare center (Dewi et al., 2021). According to Setyo, Wiwin, and Istichomah (2023), health program extension activities and counseling on health can increase motivation in the elderly to improve their health status and make the elderly aware of the importance of maintaining health and can indirectly increase the life expectancy of the elderly (Wulandari et al., 2023).

According to Utami, Sofia, and Murbawani (2017), the fundamental factor or main factor that can underlie the occurrence of heart disease is due to risk factors in lipid profile abnormalities including high triglycerides, total cholesterol levels, and Low Density Lipoproteins (LDL)

cholesterol and a decrease in High Density Lipoproteins (HDL) (Utami et al., 2017). The results obtained by researchers that out of 91 respondents there were 53 elderly people who had a high risk of developing heart disease through high blood cholesterol levels.

According to Fadma, Fadil, and Detty (2014), the main cause of mortality and morbidity in patients with DM 2 is coronary heart disease because intolerance to blood sugar is also known to predispose to vascular disease. Men who suffer from DM will be at risk of heart disease 50% higher than people who have normal blood sugar, while the possibility in women the risk can reach twice as much. Maintaining fasting blood sugar and current blood sugar levels is one of the efforts that can be made to prevent heart disease because there is a forced relationship between people with DM and the incidence of heart disease (Yuliani et al., 2014). According to Rizky, Dwi, and Dona (2019), hypertension usually occurs due to changes in systemic arterial and arterial structures, especially in cases that are not treated or not diagnosed by a doctor. Initially there will be hypertrophy of the tunica media and then hyalinization and thickening of fibrosis and at the end there will be narrowing of the blood vessels. Narrowing of the blood vessels will create a lack of oxygen to the heart which makes the heart eventually experience weakness, the results of the study explained that there was a significant relationship between the occurrence of hypertension and heart disease (Monica et al., 2019). The data from this study found that more than half of the respondents, 79.1%, had a high risk of heart disease due to high blood pressure. Countermeasures that can be taken by the elderly in minimizing the impact of hypertension are consuming fruit juices or called back to nature such as noni fruit juice, celery and sweet star fruit, consuming vegetables that contain fiber, potassium, and magnesium and can do aerobic exercise such as cycling, jogging, and regular walking can reduce blood pressure (Bulu et al., 2021).

There are two factors that can influence the occurrence of heart disease, namely non-modifiable factors and modifiable factors. One of the non-modifiable factors is a family history of heart disease (Tampubolon et al., 2023). The results of the research that has been done are 13.2% of elderly people who have a family history of heart disease. According to Dian, Lukman, and Karnirius (2021), there is an influence between a family history of heart disease on the occurrence of heart disease in other family members. Someone who has a family history of heart disease is 3.19 times more likely to experience heart disease than someone who does not have a family history of heart disease (D. C. Rahayu et al., 2021). Examination of blood pressure, blood cholesterol, and blood sugar is an examination that is used as research support to determine the possibility of the elderly having a high risk of heart disease. The examination that has the most high risk of heart disease is high blood pressure (hypertension), the elderly who were examined explained that at first they did not feel any symptoms and felt they were in a healthy state. The examined elderly also responded that they were aware that the factor of hypertension was age because the elderly had also done routine examinations, took medicine properly, maintained sleep and diet patterns, and did light exercise such as walking in the yard every morning or evening. Researchers also found that almost every elderly house has a digital blood pressure checker which is used to help the elderly to find out blood pressure, education in checking blood pressure they get through health program education from the nearest health center/health service. It is considered by researchers that the results of high blood pressure checks (hypertension) are indeed due to age factors.

According to Aristoteles (2018), there is a significant relationship between age and the incidence of hypertension because at the age of 30-65 years there will be an increase in systolic pressure and will continue to increase after the age of 70 years. This is caused by

arterial pressure which increases according to the increasing age of a person, aortic regurgitation will occur, as well as degenerative peruses that are more frequent in old age (Hasan, 2018) The results of this study are in accordance with Lawrence Green's theory of positive behavior theory of a person. The elderly who served as the sample of this study have predisposing factors, which are antecedent factors to behavior that become the basis or motivation for a person to behave. These predisposing factors include knowledge, beliefs, values, attitudes and demographics. For example, an elderly person will do a routine check-up if it is proven that it can reduce the risk of heart disease. Elderly people who are examined say that every time they do a health check, they feel calm because they know how their body is and what diseases they suffer from. Health checks carried out by the elderly allow them to take early prevention so that their health is maintained (Agustini, 2014). According to Adjunct et al. (2021) primary prevention is aimed at individuals before experiencing heart disease and the approach that can be taken is by telling the elderly what risk factors can make someone develop heart disease. The counseling is obtained by the elderly from the health center/hospital/clinic where they do health checks (Adjunct et al., 2021). According to Silvia (2022), that the role of health workers is one of the factors that can prevent the occurrence of increasingly severe diseases in the elderly because the elderly get support and information that makes the elderly routinely carry out health checks. The role of good health workers will increase visits to the elderly integrated healthcare center because the support and information provided can increase the elderly's knowledge about health problems (Riu, 2022).

CONCLUSION

Based on the results of the research that has been discussed, it can be concluded that the behavior of routine health checks in the elderly in Jatinangor District, especially Cipacing Village and Cilayung Village, needs to be improved. The results of blood pressure checks that are at high risk of heart disease are 79.1%, blood cholesterol levels 58.2% and abnormal blood sugar 11% need to get attention for health workers in the public health center area. Further research is needed to develop health programs that can motivate the elderly to conduct routine health checks and optimally manage risk factors for heart disease.

REFERENCES

- Adjunct, Marniati, Notoatmodjo, S., Kasiman, S., & Rochadi, R. K. (2021). *Lifestyle of Determinant: Penderita Penyakit Jantung Koroner*. PT. RajaGrafindo Persada-Rajawali Persada.
- Agustini, A. (2014). *Promosi Kesehatan*. Deepublish Publisher.
- Ambarita, B., Sinaga, M. K. D., Emeliana, M. K., & Purba, P. (2021). *Gambaran Tingkat Kemandirian Lansia Dalam Pemenuhan Activity Daily Living (Adl) di Panti Pemenang Jiwa Simpang Selayang Kecamatan Medan Tuntungan Kota Medan Tahun 2021*. *Elisabeth Health Journal*, xx(xx), 1–9. <https://doi.org/10.52317/ehj>
- Badan Pusat Statistik. (2022a). *Statistik Penduduk Lanjut Usia 2022*. Badan Pusat Statistik.
- Badan Pusat Statistik. (2022b). *Angka Harapan Hidup (AHH) Menurut Provinsi dan Jenis Kelamin (Tahun) 2022*. <https://www.bps.go.id/indicator/40/501/1/angka-harapan-hidup-ahh-menurut-provinsi-dan-jenis-kelamin.html>
- Bulu, Y. H., Kurniawan, N. R., & Wijaya, I. (2021). *Perilaku Lansia Dalam Upaya Penanggulangan Hipertensi di Wilayah Kerja Puskesmas Pertiwi Kota Makassar*. *Jurnal Promotif Preventif*, 4(1), 39–50. <https://doi.org/10.47650/jpp.v4i1.252>

- Dewi, E. U., Widari, N. P., Halawa, A., Amalia, T. D., Widjanarko, H., & Dimas. (2021). Pendidikan Kesehatan Pentingnya Posyandu Lansia. *Jurnal Pengabdian Masyarakat*, 2(1), 29–35. <https://doi.org/10.47560/pengabmas.v2i1.281>
- Dinas Kesehatan Kabupaten Sumedang. (2018). *Profil Kesehatan Sumedang 2018*.
- Dinas Kesehatan Kabupaten Sumedang. (2021). *Dinas kesehatan Sumedang*. 1–259.
- Dinkes Jawa Barat. (2020). *Profil Kesehatan Jawa Barat Tahun 2020*. Dinas Kesehatan Provinsi Jawa Barat, 103–111.
- Ghani, L., Susilawati, M. D., & Novriani, H. (2016). Faktor Risiko Dominan Penyakit Jantung Koroner di Indonesia. *Buletin Penelitian Kesehatan*, 44(3), 153–164. <https://doi.org/10.22435/bpk.v44i3.5436.153-164>
- Hasan, A. (2018). Korelasi Umur Dan Jenis Kelamin Dengan Penyakit Hipertensi Di Emergency Center Unit Rumah Sakit Islam Siti Khadijah Pelambang 2017. *Indonesia Jurnal Perawat*, 3(1), 9–16. <https://doi.org/s://doi.org/10.26751/ijp.v3i1.576>
- Ira Nurmala .. [et al.]. (2022). *Psikologi Kesehatan Dalam Kesehatan Masyarakat*. Airlangga University Press.
- Juslim, R. R., & Herawati, F. (2018). *Penyakit Kardiovaskular*. 2.
- Kemendes RI. (2018). Hasil Riset Kesehatan Dasar Tahun 2018. Kementerian Kesehatan RI, 53(9), 1689–1699.
- Marsanti, A. S., Astuti, B. H., Rahmaanjali, A. L., Andini, D. I. P., Utomo, I. I., Maharani, L., Wardani, N. E. P., Febrianti, R. I., & Fitriani, S. (2023). Pentingnya Penyuluhan Pemeriksaan Kesehatan Rutin pada Lansia dalam Upaya Peningkatan GERMAS di Desa Tapak. *APMa Jurnal Pengabdian Masyarakat*, 3(1), 57–63. <https://doi.org/10.47575/apma.v3i1.387>
- Misnaniarti, M. (2017). Situation Analysis of Elderly People and Efforts To Improve Social Welfare in Indonesia. *Jurnal Ilmu Kesehatan Masyarakat*, 8(2), 67–73. <https://doi.org/10.26553/jikm.2017.8.2.67-73>
- Monica, R. F., Adiputro, D. L., & Marisa, D. (2019). Hubungan hipertensi dengan penyakit jantung koroner pada pasien gagal jantung Di Rsud Ulin Banjarmasin. *Hemeostasis*, 121–124. <https://doi.org/https://doi.org/10.20527/ht.v2i1.438>
- Rahayu, D. C., Hakim, L., & Harefa, K. (2021). Faktor-Faktor Yang Mempengaruhi Kejadian Penyakit Jantung Koroner Di Rsud Rantau Prapat Tahun 2020. *PREPOTIF : Jurnal Kesehatan Masyarakat*, 5(2), 1055–1057. <https://doi.org/10.31004/prepotif.v5i2.2379>
- Rahayu, D., Irawan, H., Santoso, P., Susilowati, E., Atmojo, D. S., & Kristanto, H. (2021). Deteksi Dini Penyakit Tidak Menular pada Lansia. *Jurnal Peduli Masyarakat*, 3(1), 91–96. <https://doi.org/10.37287/jpm.v3i1.449>
- Riu, S. D. M. (2022). Peran Petugas Kesehatan Dengan Tingkat Partisipasi Posyandu Lansia Di Desa Esandom Satu Kecamatan Tombatu Timur Kabupaten Minahasa Tenggara. *Jurnal Fisioterapi Dan Ilmu Kesehatan Sisthana*, 4(1), 30–35. <https://doi.org/https://doi.org/10.55606/jufdikes.v4i1.109>

- Tampubolon, L. F., Ginting, A., & Saragi Turnip, F. E. (2023). Gambaran Faktor yang Mempengaruhi Kejadian Penyakit Jantung Koroner (PJK) di Pusat Jantung Terpadu (PJT). *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal*, 13(3), 1043–1052. <https://doi.org/10.32583/pskm.v13i3.1077>
- Utami, R. W., Sofia, S. N., & Murbawani, E. A. (2017). Lipid Pada Pasien Penyakit Jantung Koroner. *Jurnal Kedokteran Diponegoro*, 6(2), 1143–1155. <https://doi.org/https://doi.org/10.14710/dmj.v6i2.18627>
- Wulandari, S. R., Winarsih, W., & Istichomah. (2023). Peningkatan Derajat Kesehatan Lansia Melalui Penyuluhan Dan Pemeriksaan Kesehatan Lansia Di Dusun Mrisi Yogyakarta. *Pengabdian Masyarakat Cendekia (PMC)*, 2(2), 58–61. <https://doi.org/10.55426/pmc.v2i2.258>
- Yuliani, F., Oenzil, F., & Iryani, D. (2014). Hubungan Berbagai Faktor Risiko Terhadap Kejadian Penyakit Jantung Koroner Pada Penderita Diabetes Melitus Tipe 2. *Jurnal Kesehatan Andalas*, 3(1), 37–40. <https://doi.org/10.25077/jka.v3i1.22>