

General Check-Up Cares for the Elderly

General Check-Up Peduli Lansia

Dewi Andariya Ningsih¹, Innama Sakinah², Siti Hilmi Musyarrofah³, Ufil Afifatul Fadlillah⁴

¹ Ibrahimy University; Indonesia ² Faletahan University; Indonesia

^{3,4} Students of Midwifery Study Program, Faculty of Health Sciences, Ibrahimy University; Indonesia

* Correspondence e-mail; dewiandariya01@gmail.com

Article history

Submitted: 2022/11/14; Revised: 2023/04/10; Accepted: 2023/04/17

Abstract

General Check-Up Care for the Elderly" is one of the community's activities of Tri Dharma Perguruan Tinggi conducted by the faculty of health sciences University Ibrahimy. The purpose of this activity is to be able to detect early the condition of the elderly who participate in carrying out free examinations and treatment and to be able to provide solutions to health problems in the elderly in a preventive and curative order. The implementation method is that the servant coordinates with the puskesmas and related villages, invites older people to attend at once, conducts examinations, provides therapy, and does elderly gymnastics. This activity occurred in Pokaan Village Village Hall of Kapongan on December 29, 2019. The number of participants who participated in this activity was six elderly from 6 hamlets in Pokaan village. Most of the elderly have not implemented a healthy lifestyle in their daily life, most of the elderly in the classification of BMI are in the normal category, most of the elderly have hypertension grade I, and some have high uric acid. The solution is family participation in caring for older people and controlling the health status of the elderly

Keywords

Elderly 1; Examination 2



© 2023 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution 4.0 International (CC BY SA) license, <https://creativecommons.org/licenses/by-sa/4.0/>.

1. INTRODUCTION

The role of the Faculty of Health Sciences in carrying out the tri dharma of higher education is one of community service, getting closer to the community so that they can recognize, know and feel the problems faced by the community. The Faculty of Health Sciences in the field of health with the Tri dharma of higher education devotes knowledge and skills as a tangible form of helping to build society through community service strategies. Community service as a form of actual work in the community and benefits for the community can adopt a strategy as an effort to improve health status.

Population worldwide with the elderly group (elderly) aged 60 years and over is increasing compared to other age groups. Indonesia is one of the countries located in Southeast Asia that is entering the era of the aging structured population because the number of people aged over 60 years is around 7.18 percent. This increase in the number of older adults is due to, among other things, the increasing socio-economic level of the community, progress in the field of health services, and the increasing level of public knowledge (Singh et al., 2012).

The elderly tend to experience health problems caused by decreased body functions due to aging. The aging process is a process that results in changes, including physical, psychological, social, and spiritual changes. In physiological differences, there is a decrease in the immune system in the face of disturbances from inside and outside the body. One of the most common health problems experienced by the elderly is the cardiovascular system. Naturally, older people will experience decreased organ function and blood pressure lability. Therefore, the elderly are always recommended to check their blood pressure regularly to prevent cardiovascular disease, especially hypertension. (Singh, Danaei, & Pelizzari, 2012).

Hypertension is one of the leading public health problems in developed and some developing countries. Indonesia, as a developing country, also faces this problem. Hypertension is a disease that is often referred to as a silent killer. Controlling it can trigger degenerative diseases, such as congestive heart failure, kidney failure, and various vascular diseases. Hypertension is a disease that has a very close relationship with the elderly. This occurs due to physiological changes such as a decrease in the body's immune response, thickening and stiffening of the heart valves, a decrease in the contractility of the heart, reduced elasticity of blood vessels, and a lack thereof effectiveness of peripheral blood vessels for oxygenation. (Darmojo et al., 2011). These changes cause an increase in vascular resistance so that the elderly tend to be more susceptible to hypertension (Fatimah, 2016).

The high incidence of hypertension in the elderly demands the role of health workers to carry out prevention and health promotion efforts. Several preventive ways can be done by the elderly to avoid hypertension with the HEALTHY motto, namely: Balance nutrition, get rid of smoking, avoid stress, monitor blood pressure, and exercise regularly. Regular exercise can be done using physical activities suitable for older people, including walking, cycling, swimming, homework, and gymnastics (Maryam, 2008). Physical exercise, such as regular exercise, helps prevent chronic conditions or diseases, such as high blood pressure (hypertension) (Once, 2011). Exercise can increase the body's metabolic activity and oxygen demand. The type of physical exercise that older people can do is gymnastics. Elderly gymnastics is fundamental for older people to maintain their body health. In addition to elderly exercise activities, deep breathing exercises can also be done to preserve the health of older people. The primary purpose of respiratory regulation is to supply sufficient oxygen demand to meet the body's needs, such as during physical exercise, infection, or pregnancy. Breathing regulation increases the release of carbon dioxide, resulting from the body's metabolic processes (Potter & Perry, 2005). Breathing slowly, deeply, and regularly can increase parasympathetic activity. Increased parasympathetic activity can reduce cardiac output and total peripheral resistance, lowering blood pressure.

In the study's results before the elderly exercise, the highest systolic blood pressure was 170 mmHg, the most elevated diastolic blood pressure was 100 mmHg, the average systolic blood pressure was 149.17 mmHg, and the moderate diastolic blood pressure was 91.25 mmHg. Theoretically, older people tend to experience increased blood pressure with age. Increased blood pressure in older people generally occurs due to decreased organ function in the cardiovascular system. The heart valves thicken and become stiff, and there is a decrease in the elasticity of the aorta and other large arteries (Ismayadi, 2014). In addition, there is an increase in peripheral vascular resistance when the left ventricle pumps, so systolic pressure, and afterload increase (Gunawan, 2012). Structural and functional changes in the peripheral vascular system are responsible for blood pressure changes in older people. These changes include atherosclerosis, loss of connective tissue elasticity, and decreased relaxation of vascular smooth muscle, reducing the distension and tensile strength of blood vessels. Consequently, the aorta and the great arteries are reduced in their ability to accommodate the volume of blood pumped by the heart (stroke volume), resulting in decreased cardiac output and increased peripheral resistance. (Smeltzer & Bare, 20 C.E.). Systolic blood pressure and diastolic blood pressure increase with increasing age. Systolic blood pressure rises progressively until 70-80 years, while diastolic blood pressure increases until 50-60 years

and then tends to stay or decrease slightly. This combination of changes most likely reflects the presence of vascular stiffness and decreased arterial compliance, and this results in an increase in pulse pressure with age. According to research conducted by (Singh, Danaei, & Pelizzari, 2012) found that systolic blood pressure increased by about 1.7 to 11.6 mm Hg over ten years. In the results of the study after the elderly exercise, the highest systolic blood pressure was 140 mmHg, the most elevated diastolic blood pressure was 90 mmHg, the average value of systolic blood pressure was 127.50 mmHg, and the average value of diastolic blood pressure was 78.75 mmHg. This data shows that after doing deep breathing exercises and elderly exercise, the respondent's systolic and diastolic blood pressure decreased compared to before doing deep breathing exercises and elderly exercise. According to Veronique and Robert 2005 in (Potter & Perry, 2005) in Belgium concluded that aerobic exercise can be applied as hypertension management not only for prevention but also for maintaining the health of the elderly. In addition to elderly exercise activities, deep breathing exercises can also be done to preserve the health of older people. The primary purpose of respiratory regulation is to supply sufficient oxygen demand to meet the body's needs, such as during physical exercise, infection, or pregnancy. Regulation of breathing increases the expenditure of carbon dioxide, the result of the body's metabolic processes.

Individually, the aging process's influence also causes various physical, biological, mental, and socio-economy problems. The morbidity rate in non-communicable diseases such as cancer, cardiovascular disease, and other degenerative diseases shows an increasing trend. In addition to hypertension, the condition often experienced by the elderly is gout. Gout is a metabolic disorder characterized by increased levels of uric acid (hyperuricemia) (Carter & Michael, 2010).

Uric acid is the end product of purine metabolism, a component of nucleic acids found in the nucleus of body cells. Increased levels of uric acid in the blood are called hyperuricemia. Hyperuricemia is caused by two things, namely, due to excessive uric acid formation or due to decreased excretion of uric acid by the kidneys. Untreated hyperuricemia causes excess uric acid in the blood, causing uric acid crystals. If the crystals are in the joint fluid, it will cause gout (Putra, 2017). Gout is generally experienced by men aged over 30 years. Gout disease can be grouped into primary and secondary forms of gout. Most of the causes are thought to be due to women experiencing abnormalities in metabolic processes in the body and 10% of cases after menopause are due to hormonal disorders (Kaparang, 2017). Besides being able to cause gout, hyperuricemia can also cause kidney disorders, tophi around the joints, heart disease, bone inflammation, stroke, and urinary stones (Saraswati, 2019).

Pokaan Village is in the Kapongan sub-district, Situbondo Regency, East Java, Indonesia. It comprises six hamlets: Karang Malang, Cocong, Central Pokaan, Karang Kenik, Krajan, and West Pokaan. (Profil Desa Pokaan, Kecamatan Kapongan, 2016). The general check-up activity for caring for older people was conducted at the Pokaan village hall. The six hamlets with more senior people were invited to participate in carrying out the activities. There were 54 elderly who participated in this activity. The results obtained according to the BMI calculation are mainly in the standard classification, namely 31 elderly out of 54 older adults. The results of blood pressure checks showed that most of them had grade 1 hypertension, namely 22 people. And the results of the uric acid examination showed that some older people had normal uric acid levels, namely 40 elderly.

Disease control programs still widely available in Indonesia aim to control risk factors to reduce morbidity, disability, and death caused by these various diseases. Disease control is prioritized on early prevention through efforts to prevent disease risk factors, namely promotive and preventive actions, by not neglecting curative and rehabilitative measures. Therefore, the disease control program is carried out with the priority of preventive and promotive efforts without neglecting corrective steps. This is the basis for holding a General Check Up and caring for the Elderly with community service. Ibrahimy University serves free blood pressure and uric acid checks for early detection of older people to pay attention and help those who can't afford it.

The form of community service in this activity is to carry out health counseling, elderly exercise, measurement of height and weight, blood pressure measurement, checking uric acid levels, and treatment in the Pokaan village, Kapongan district, in collaboration with the Pokaan Pustu (Puskesmas Kapongan) with the theme "General Check Up Cares for the Elderly." The reason for determining the type of health examination is based on diseases that are often experienced by the elderly who are prone to occur. The targets are seniors aged 45 years and over in Pokaan village. So based on early detection of the elderly, Ibrahimy University participates with the Pokaan Pustu to carry out free examinations and treatment able to provide solutions to health problems in the elderly in both preventive and curative settings.

2. METHODS

The principal of this community service activity is General Check-Up Care for the Elderly. The target is older people in Pokaan Village. They are implementing Health Center Officers and Faculty of Health Sciences Lecturers. The place is at the Pokaan Village Hall, Kapongan District, on December 29, 2019, to carry out free health checks for older people. This program contains activities for checking blood pressure and uric

acid to increase older people's insight about the results of health checks through counseling activities and providing free treatment for the elderly according to the examination results. The implementation of the action consists of 1 lecturer in charge of implementing, assisted by one lecturer, two puskesmas officers, educators, and students. The activity was carried out at the Pokaan Village Hall, Kapongan district, at 12.00 WIB, with 54 older adults who came. Before the implementation of the action, the executor was assisted by lecturers and students by swiping to older people's homes to invite and participate in the general Elderly Care Check-Up activity. All hamlets in the Pokaan village were invited to attend the training.

3. FINDINGS AND DISCUSSION

The following is the percentage of elderly attendance from the six hamlets in Pokaan Village, Kapongan District. The following is a description of the activities carried out and their time allocation.

Table 1. General Check-Up Activities Caring for the Elderly

NO.	ACTIVITY	RESULTS	TIME ALLOCATION
1.	Registration	Identity & checklist inspection	2 minutes*
2.	Counseling		15 minutes
3.	Elderly Gymnastics		20 minutes
4.	Blood pressure check	Blood pressure value	5 minutes*
5.	Uric acid check	Uric acid value	5 minutes*
6.	Counseling and recapitulation of results	Resume of examination results	50 minutes*

Noted: * Time allocation for each participant

A person's nutritional status can be seen from the comparison between height and weight. There are so many benefits of maintaining an ideal body weight throughout life. Ideal body weight can reduce the risk of disease. Being overweight or obese can cause various conditions, such as respiratory problems, coronary heart disease, high blood pressure, diabetes, stroke, and hormonal disorders.



Figure 1. Blood pressure check and GDA check process

One of the simplest and most commonly used ways to determine a person's level of obesity (overweight) is to use the Body Mass Index (BMI) or Body Mass Index (BMI). With the Body Mass Index, a person can be categorized as usual, thin, or fat. Activities targeting older people are targets in continuous midwifery care by midwives and other health workers (Ningsih, 2017). In carrying out maintenance, midwives need to have a reciprocal relationship so that the care provided can be accepted by the recipients of care (Dewi Andariya Ningsih, 2015). The BMI value can be calculated using the following formula: $BMI = \frac{\text{Berat Badan (Kg)}}{\text{Tinggi Badan (m)}^2}$

Table 2. Categories using Body Mass Index (BMI) or Body Mass Index (BMI)
(Center for disease control and Prevention (CDC), 2000. Body Mass Index:
Considerations for practitioners)

BMI	CATEGORY
< 17	Very thin
17,0 – 18,5	Thin
18,5 – 25,0	Normal
25,0 – 27,0	Fat
>27,0	Very fat



Figure 2. Elderly Gymnastics

Based on the BMI classification examination results, 54 older adults were categorized into skinny six people, skinny five people, ordinary 31 people, fat four people, and obese eight people. The percentage of BMI classification is shown in the following diagram.

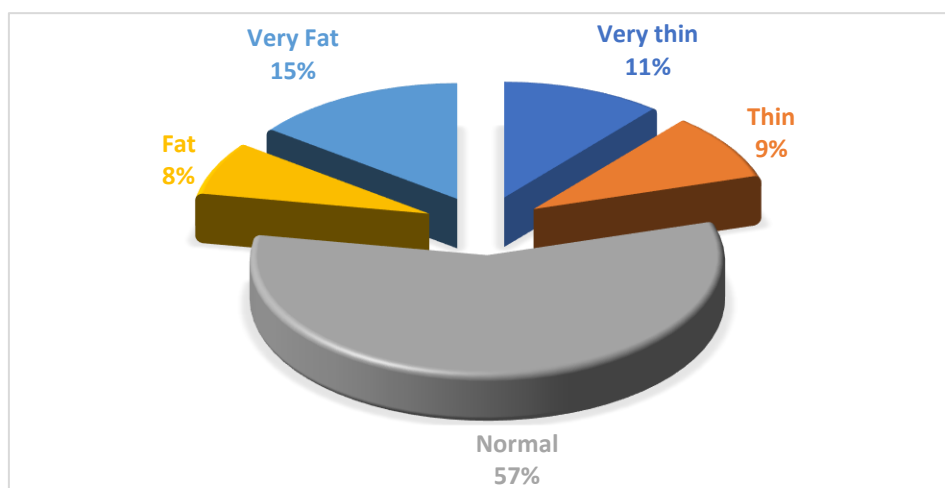


Figure 3. Classification of BMI in the Elderly

Blood pressure classification is based on The Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) for adult patients (18 years) based on the average of two or more blood pressure measurements at two or more visits. Clinically (Chobaniam AV et al., 2003). Classification of blood pressure includes four categories, with average values for systolic blood pressure (TDS) <120 mmHg and diastolic blood pressure (TDD) <80 mmHg. Prehypertension is not considered a disease category but identifies patients whose blood pressure is likely to increase to the classification of hypertension in the future.

Table 3. Classification of blood pressure in adults (≥ 18 years) based on JNC 7 (The Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure).

Blood Pressure Classification	Systolic Blood Pressure (mmHg)	Diastolic Blood Pressure (mmHg)
Normal	< 120	< 80
Prehypertension	140 – 139	80 – 90
Hypertension grade 1	140 -159	90 – 99
Hypertension grade 2	≥ 160	≥ 100

Sumber Chobaniam AV et al, 2003

Based on the blood pressure examinations in 54 older adults, the results were obtained with the standard classification of 13 people, prehypertension in 17 people, hypertension degree I in 22 people, and hypertension degree II in 2 people. Based on the results of community service carried out by Dewi et al., it was reported that after a blood test was carried out, it was also followed by an anemia examination to ensure the current condition of the mother and the importance of follow-up activities so that these activities can be carried out again in the future with different participants (Ningsih et al., 2022). Along with the increasing number of elderly, health problems are

also increasing, one of which is the problem of hypertension which is the first order of disease in the elderly. Hypertension is often asymptomatic, so many are ignored and feel there is no problem. It takes the involvement of various parties in its management, one of which is the involvement of elderly health cadres (Syukkur et al., 2022). The results of the classification are presented in the form of the following diagram.

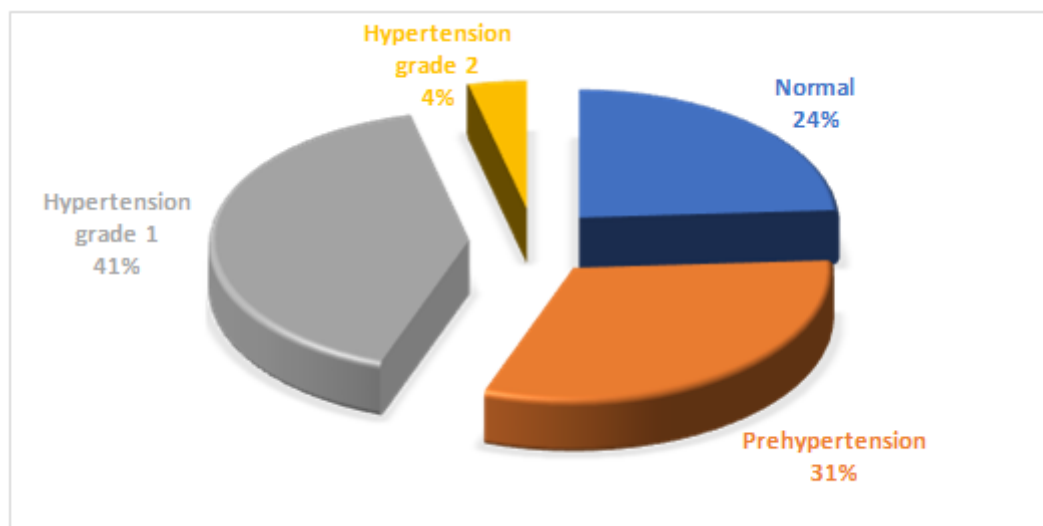


Figure 4. Classification of blood pressure in the elderly

Table 4. Table of average values for uric acid according to WHO for women and men

Normal Uric Acid Levels for Men and Women (Aged 10 – 40 Years and Over)		
Age and Gender	Lower limit	Upper limit
Adult Male > 18 years old	2mg/dl	7,5 mg/dl
Mature Female > 18 years old	2 mg/dl	6,5 mg/dl
Male elderly 40 years and over	2 mg/dl	8,5 mg/dl
Older women 40 years and over	2 mg/dl	8 mg/dl
Boys aged 10 – 18 years	3,6 mg/dl	5,5 mg/dl
Girls aged 10 – 18 years	3,6 mg/dl	4 mg/dl

Based on the results of the examination of uric acid in older people totaling 54 people, 44 people were in the normal category, and ten people in the class had high uric acid levels. The percentage of uric acid classification in older people is shown in Figure 5.

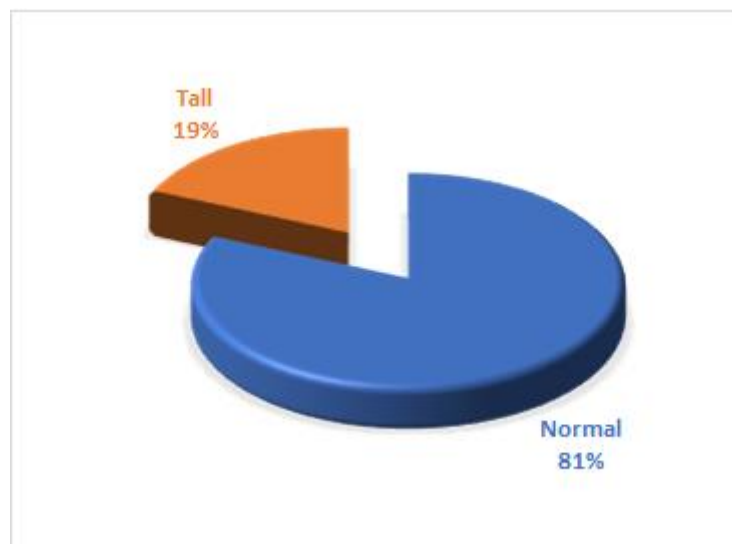


Figure 5. Classification of uric acid in the Elderly

4. CONCLUSION

Most of the elderly have not implemented a healthy lifestyle in their daily life, most of the elderly in the classification of BMI are in the normal category, most of the elderly have hypertension grade I, and some have high uric acid. From the results, most of the elderly in Pokaan Village, Kapongan sub-district, experienced grade II hypertension, and a small proportion had high uric acid levels. Therefore, there must be a solution to overcome this, which is contained in the follow-up plan in the form of Family participation in caring for older people, Counseling for older people to implement a healthy life, Memorizing elderly gymnastics movements, Free medical treatment from the Kapongan health center regularly, Controlling health status in older people and Cooperation with the Kapongan health center to conduct counseling and routine checks on older people.

REFERENCES

Carter, & Michael, A. (2010). *Buku Ajar Patofisiologi Edisi 6*. EGC.

- Darmojo, R., B.Martono, & Geriatri, H. (2011). *Ilmu Kesehatan Usia Lanjut (Edisi ke-4)*. Fakultas Kedokteran Universitas Indonesia.
- Dewi Andariya Ningsih. (2015). Partnership Dalam Pelayanan Kebidanan. *Proceeding Book*.
- Fatimah. (2016). Respons Imunitas Yang Rendah Pada Tubuh Manusia Usia Lanjut. *Jurnal Makara, Kesehatan*, 10(1), 47–53.
- Gunawan, D. (2012). *Tahun 2010-2020 Terjadi Ledakan Lansia Di Indonesia*.
- Ismayadi. (2014). *Proses Menua (Aging Proses)*.
- Kaparang, K. (2017). *Penyakit Kaum Bangsawan*. PT Etika Media Utama.
- Maryam. (2008). *Mengenal usia Lanjut dan Perawatannya*. Salemba Medika.
- Ningsih, D. A. (2017). Continuity of Care Kebidanan. *OKSITOSIN: Jurnal Ilmiah Kebidanan*, 4(2), 67–77. <https://doi.org/10.35316/oksitosin.v4i2.362>
- Ningsih, D. A., Romlah, S., & Kholifah, U. N. (2022). Improving Health Information Of Pregnant Mothers With The Islamic Family Approach Through The Recognition Of Anemia Signs. *Community Service Journal of Indonesia*, 4(1), 1–7.
- Once. (2011). *Latihan Fisik Untuk Kesegaran Jasmani Lansia*.
- Potter, & Perry. (2005). *Buku Ajar Fundamental Keperawatan Konsep, Proses, dan Praktik*, Edisi 4, Volume 1. EGC.
- Profil Desa Pokaan, Kecamatan kapongan. (2016).
- Putra, T. R. (2017). *Buku Ajar Patofisiologi edisi 6*. EGC.
- Saraswati, S. (2019). *Diet Sehat untuk Penyakit Asam Urat, Diabetes, Hipertensi dan Stoke*. A Plus Book.
- Singh, G. ., Danaei, G., & Pelizzari, P. . (2012). *The Age Associations of Blood Pressure, Cholesterol and Glucose: Analysis of Health Examination Surveys from International Populations*.
- Smeltzer, & Bare. (20 C.E.). *Buku Ajar Keperawatan Medikal Bedah*, Edisi 8, Volume 2 (EGC (Ed.)).
- Syukkur, A., Yun, E., Vinsur, Y., & Nurwiyono, A. (2022). Pemberdayaan kader lansia dalam upaya penatalaksanaan hipertensi. *SELAPARANG*, 6, 624–629.