

LAMPIRAN

Lampiran 1 Jurnal Hubungan Asupan Natrium dengan Kejadian Hipertensi di Posyandu Lansia Desa Tegowangi kecamatan Plemahan Kabupaten Kediri.

HUBUNGAN ASUPAN NATRIUM DENGAN KEJADIAN HIPERTENSI DI POSYANDU LANSIA DESA TEGOWANGI KECAMATAN PLEMAHAN KABUPATEN KEDIRI

Relationship Of Sodium Intake With The Incidence Of Hypertension At Elderly Posyandu Tegowangi Village Plemahan Sub District Of Kediri

Dwi Reka Aprilliyanti, Frenky Arif Budiman*
Program Studi D3 Gizi, Akademi Gizi Karya Husada Kediri
frenkyarifbudiman86@gmail.com

Abstrak

Asupan natrium yang cukup namun menyebabkan hipertensi pada lansia hal ini disebabkan karena pada dasarnya lansia sudah memiliki riwayat penyakit hipertensi. Pengaruh asupan natrium terhadap timbulnya hipertensi terjadi melalui peningkatan volume plasma, curah jantung, dan tekanan darah. Konsumsi natrium yang berlebih menyebabkan konsentrasi natrium didalam cairan ekstraseluler meningkat. Untuk menormalkannya, cairan intraseluler ditarik keluar, sehingga cairan ekstraseluler meningkat. Meningkatnya cairan ekstraseluler tersebut meningkatkan volume darah. Menganalisis Hubungan Asupan Natrium Dengan Kejadian Hipertensi di Posyandu Lanjut Usia Desa Tegowangi Kecamatan Plemahan Kabupaten Kediri. Penelitian dilaksanakan di Posyandu Lansia Desa Tegowangi Kecamatan Plemahan Kabupaten Kediri. Pengambilan sampel menggunakan *random sampling*. Subyek penelitian adalah lansia yang mengalami tekanan darah tinggi. Tidak terdapat hubungan yang signifikan antara asupan natrium dengan hipertensi ($0,895 > 0,05$) di Posyandu Lansia Desa Tegowangi Kecamatan Plemahan Kabupaten Kediri. Karena adanya faktor lain yang dapat mempengaruhi terjadinya hipertensi pada lansia. Tidak Ada Hubungan Asupan Natrium Dengan Kejadian Hipertensi Di Posyandu Lansia Desa Tegowangi Kecamatan Plemahan Kabupaten Kediri. Perlu adanya penyuluhan yang dilakukan di posyandu tentang faktor penyebab hipertensi dan makanan yang tinggi akan natrium, untuk mencegah terjadinya hipertensi pada lansia.

Kata Kunci : Asupan Natrium, Hipertensi, Lansia

Abstract

Adequate intake of sodium but causes hypertension in the elderly this is because basically elderly have a history of hypertension. Effect of Sodium intake on the occurrence of hypertension occurs through increased plasma volume, cardiac output, and blood pressure. Excessive consumption of Sodium causes the concentration of Sodium in the extracellular fluid to increase. To normalize it, the intracellular fluid is pulled out, so that the extracellular fluid increases. Increased extracellular fluid increases blood volume. Analyzing Relationship of Sodium Intake with Hypertension Incidence at Elderly Posyandu Tegowangi village Plemahan Sub-district of Kediri. The study was conducted at Elderly Posyandu addresses Tegowangi district of Plemahan Kediri Regency. Sample using random sampling. Research subjects were elderly who had high blood pressure. There was no significant relationship between sodium intake with hypertension ($0,895 > 0,05$) in Posyandu Lansia Tegowangi, Plemahan sub-district of Kediri. Because of other factors that can affect the occurrence of hypertension in elderly. There is no Relationship of Sodium Intake with Hypertension Incidence at Elderly Posyandu Tegowangi village Plemahan Sub-district of Kediri. There needs to be counseling conducted posyandu about factors causing hypertension and foods high in sodium, to prevent the occurrence of hypertension in elderly.

Keywords : Sodium intake, Hypertension, Elderly.

Lampran 2 Mineral Intake and Blood Pressure Control of Brazilian elderly



Research Article



Mineral intake and blood pressure control of Brazilian elderly

Abstract

The aim of this study was to evaluate mineral intake by hypertensive elderly Brazilian patients. The study included 37 patients aged 80 years or more undergoing outpatient follow-up. The dietary intake of calcium, iron, potassium and sodium was assessed by calculating three 24-hour recall, collected on non-consecutive days, including one weekend day. The mineral intake was analyzed according to the recommendations of the Institute of Medicine (IOM) and its adequacy or inadequacy were evaluated by sex and control of systolic and diastolic blood pressure. The sample was characterized by low schooling and per capita income. It was identified a high prevalence of inadequacy for calcium intake (97.30%). None of the individuals reached the adequate intake for potassium. The majority of the elderly had adequate iron intake (69.23%) and few exceeded the tolerable upper intake level for sodium (22.22%). There were no statistically significant differences in the adequacy of mineral intake as to gender and blood pressure control. The majority of the elderly had controlled blood pressure values. The low consumption of calcium and potassium indicates the need of actions of incentive to a diversified feeding, with greater presence of dairy foods, fruits and vegetables.

Keywords: hypertension, dietary minerals, aged 80 and over

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Natalia Lobato da Silva,¹ Samantha Pereira Araújo,²

¹School of Social Sciences and Health of the Pontifical Catholic University of Goiás, Brazil

²Hypertension League of Federal University of Goiás, Brazil

Correspondence: Samantha Pereira Araújo, Hypertension League of Federal University of Goiás, Goiânia, Goiás, Brazil, Tel +55 (62) 984036062, Email: samanthaaraujo@hotmail.com

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Abbreviations: NCD, chronic noncommunicable diseases; EAR, estimated average requirement; AI, adequate intake; UL, maximum tolerable upper intake level; SBP, systolic blood pressure; DBP, diastolic blood pressure

Introduction

Brazil is going through a demographic transition which results in the rapid aging of the population.^{1,2} The Brazilian population with more than 80 years, was approximately 731,350 inhabitants in year 2000, and increased to 1,133,223 in 2010.³ Changes due to aging make people more vulnerable to disease development, with an emphasis on chronic noncommunicable diseases (NCDs).⁴ The current food pattern also contributes to the increased incidence of NCDs. The growth in the consumption of ultraprocessed foods results in a greater intake of calories, fats, sugars and sodium, nutrients closely related to diseases such as obesity and hypertension.⁵

Micronutrient intake among Brazilian elderly is far from the recommended values, in consequence of the low variety of foods in the diet⁶ and low consumption of fruits and vegetables.⁷ The Brazilian population consumes approximately a quarter of the value recommended by the Brazilian Food Guide⁸ for these foods.⁹ Although necessary in relatively small amounts, minerals are involved in the regulation of physiological processes, such as reproduction, immune response, metabolism and neural functions. Minerals must be obtained through food and inadequate consumption can lead to serious damage to health, increasing morbidity and mortality.⁵

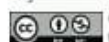
High sodium intake has a correlation with NCDs, including hypertension,¹⁰ which is one of the most prevalent diseases among the elderly.^{11,12} Inadequate intake of calcium and potassium may also contribute to the elevation of pressure levels.¹³⁻¹⁵ Among Brazilians aged 75 or over, the proportion of hypertensive patients is 55%.^{16,17} As for iron deficiency, in addition to causing anemia, it can still lead

to a decrease in cognitive abilities in the elderly.¹⁸ Individuals with reduced cognitive abilities may have lower adherence to medications, including antihypertensive drugs.¹⁹ The aim of this study was to investigate the consumption of minerals by very elderly hypertensive individuals, in outpatient follow-up.

Materials and methods

The study target population consisted of patients aged 80 and over who were under regular treatment at a public reference center for the treatment of hypertension. A specific questionnaire was applied for the collection of sociodemographic and lifestyle data. The dietary intake of iron, sodium, calcium and potassium was evaluated by calculating three 24-hour recall, collected on non-consecutive days, including one weekend with Dietwin software professional version. The mineral content of the diet was analyzed according to the recommendations of the Institute of Medicine (IOM). To estimate the prevalence of inadequacy in mineral consumption, the estimated average requirement (EAR) values were taken into account.^{20,21} In the case of potassium, where there is no established EAR, the adequate intake (AI)¹¹ was used. Sodium had as reference the maximum tolerable upper intake level (UL).¹¹ Blood pressure measurements followed the technique presented by Brazilian Society of Cardiology.²² The values obtained were classified according to cutoff points for the elderly aged 80 or older.²³

Descriptive analyses of the data was performed and presented as means $\pm$ standard deviations. Fisher's exact test was performed to access the difference between minerals intake by gender and blood pressure control. The analyses were performed using Statistical Package for Social Sciences software (version 21 for Windows, SPSS Inc., Chicago, IL, USA). The study was approved by the Research Ethics Committee of the Institution (Protocol No. 700.942 from 06/26/2014). The participants signed informed consent forms.



Lambran 3 Hubungan Asupan Protein, Lemak, Kalium dan Magnesium dengan Tekanan Darah Sistolik dan Diastolik Lanjut Usia



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HUBUNGAN ASUPAN PROTEIN, LEMAK, KALSIUM DAN MAGNESIUM DENGAN TEKanan DARAH SISTOLIK DAN DIASTOLIK LANJUT USIA

Aria Menad M¹, Aryu Candra¹

¹ Departemen Ilmu Gizi, Fakultas Kedokteran, Universitas Diponegoro
Jln. Prof. H. Soedarto, SH., Semarang, Telp (024) 8453708, Email : gizifk@undip.ac.id

ABSTRACT

Background : Hypertension is one of the degenerative diseases that has high prevalence and increase. One of the factors that influence blood pressure in hypertensive patients is protein, fat, potassium, and magnesium intake. The purpose of this study was to determine the relationship of protein, fat, potassium, and magnesium intake with blood pressure in elderly.

Design : This cross-sectional study was conducted among 42 subjects (aged 60-80 years) of PWRI (Persatuan Wredatama Republik Indonesia) members living in South Semarang, Semarang. Food recall method was used to measure the intake of protein, fat, potassium and magnesium intake. Blood pressure was measured with a mercury sphygmomanometer. Rank-Spearman test was used on bivariate analysis.

Results : On the results of this study as many as 83.3% of subjects hypertension. Protein intake (52.4% of subjects), fat intake (100% of subject) potassium intake (54.8%) and magnesium (95.2% of subjects) are lower than needs. Bivariate analysis shows that there were no correlation between protein, fat, potassium, and magnesium intake and systolic blood pressure and diastolic blood pressure.

Conclusion : In there were correlation between protein, fat, potassium, and magnesium intake and systolic blood pressure and diastolic blood pressure.

Keywords : Protein intake, fat, potassium, and magnesium, blood pressure, elderly

ABSTRAK

Latar belakang : Hipertensi merupakan salah satu penyakit degeneratif yang prevalensinya semakin meningkat. Salah satu faktor yang mempengaruhi tekanan darah adalah asupan protein, lemak, kalium, dan magnesium. Tujuan penelitian ini adalah untuk mengetahui hubungan asupan protein, lemak, kalium, dan magnesium dengan tekanan darah pada lansia.

Metode : Penelitian cross-sectional ini diikuti oleh 42 subjek (60-80 tahun) dari anggota PWRI (Persatuan Wredatama Republik Indonesia) ranting Semarang Selatan di Semarang. Asupan protein, lemak, kalium, dan magnesium diperoleh dengan menggunakan recall 3x24 jam. Tekanan darah diukur dengan menggunakan Sphygmomanometer air raksa. Analisis bivariat dilakukan dengan uji korelasi Rank-Spearman.

Hasil : Pada penelitian ini sebanyak 83.3% subjek mengalami hipertensi. Asupan protein (52.4%), lemak (100%), kalium (54.8%), dan magnesium (95.2%) subjek kurang dari kebutuhan. Analisis bivariat menunjukkan tidak ada hubungan antara asupan protein, lemak, kalium, dan magnesium dengan tekanan darah sistolik dan diastolik.

Simpulan : Tidak terdapat hubungan antara asupan protein, lemak, kalium dan magnesium dengan tekanan darah sistolik dan diastolik.

Kata kunci : Asupan protein, lemak, kalium, magnesium, tekanan darah, lansia.

PENDAHULUAN

Usia lanjut merupakan suatu proses kemunduran fisik, mental dan sosial.¹ Pada usia lanjut terjadi proses penuaan yang dapat berakibat pada kelelahan fungsi organ, kemunduran fisik, timbul berbagai macam penyakit, terutama penyakit degeneratif. Hal ini menimbulkan masalah kesehatan, sosial, ekonomi, dan psikologi.² Menurut Kementerian Kesehatan RI (2012) Prevalensi hipertensi atau tekanan darah di Indonesia cukup tinggi. Prevalensi hipertensi di kota Semarang sebesar 12, 85% dengan jumlah kasus sebanyak 2063.³ Bertambahnya umur akan mengakibatkan tekanan darah meningkat, karena dinding arteri pada usia lanjut akan mengalami penebalan yang mengakibatkan penumpukan kolagen pada lapisan

otot, sehingga pembuluh darah akan berangsur menyempit dan menjadi kaku.⁴

Faktor-faktor yang menjadi penyebab penyakit hipertensi antara lain faktor keturunan, berat badan, diet, alkohol, rokok, obat-obatan dan faktor penyakit lain. Gaya hidup juga berpengaruh terhadap kemunculan serangan tekanan darah tinggi. Kebiasaan-kebiasaan tidak sehat seperti pola makan yang tidak seimbang dengan kadar kolesterol yang tinggi, garam, minimnya olahraga dan porsi istirahat sampai stres dapat berpengaruh terhadap kemunculan tekanan darah.⁵

Asupan protein yang sesuai, dapat menurunkan tekanan darah jika diikuti dengan perubahan gaya hidup.¹¹ Hasil penelitian pasien hipertensi di Jepang (2009), menunjukkan bahwa

Lambran 4 Hubungan Antara Tingkat Kecukupan Lemak Tidak Jenuh Tunggal, Mineral, dan Status Gizi dengan Kejadian Hipertensi pada Lansia di Posbindu PTM Puskesmas Tajur Kota Tangerang

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HUBUNGAN ANTARA TINGKAT KECUKUPAN LEMAK TIDAK JENUH TUNGGAL, MINERAL, DAN STATUS GIZI DENGAN KEJADIAN HIPERTENSI PADA LANSIA DI POSBINDU PTM PUSKESMAS TAJUR KOTA TANGERANG

Relationship between the Level of Monounsaturated Fat, Mineral, and Nutritional Status with the Incidence of Hypertension in Posbindu PTM Puskesmas Tajur Tangerang City

Kristina Rosalia Pakpahan¹, Nadiyah^{1*}, Harna¹, Mertien Sa'pang¹, Yulia Wahyuni¹

¹Universitas Esa Unggul

Jalan Arjuna Utara Nomor 9 Kebon Jeruk, Jakarta Barat, DKI Jakarta, Indonesia

*e-mail: nadiyah@esaunggul.ac.id

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ABSTRACT

Background. The hypertension can cause various related diseases. As you get older, the physiological function of the body also decrease and there are changes, especially in physiological changes, because with age, the function of organs will decrease both due to natural factors and due to disease. Hypertension is also often associated with nutritional status because someone who is overweight more likely to do hypertension than normal people. One of the most common health problem experienced by the elderly is reduced heart strength. The food intake is very important role to supporting healthy and blood pressure control. **Objective.** This study aim to determine the relationship between the adequacy level of monounsaturated fat, calcium, magnesium, potassium, and nutritional status with the incidence of hypertension in the elderly at Posbindu PTM Puskesmas Tajur Tangerang City. **Method.** The design of research used a cross-sectional design. The design was selected by proportional stratified random amounting to 108 respondents. Data analysis using Chi Square. **Results.** The findings showed that the adequacy level of monounsaturated fat (96.3%), calcium (81.5%), and potassium (54.6%) was classified as low (<77% RDA) but the adequacy level of magnesium was sufficient (68.5%) and most of them with overweight nutritional status (74%). There was not relationship between the adequacy of monounsaturated fat, calcium, magnesium, potassium, and nutritional status with the incidence of hypertension ($p>0.05$). **Conclusion.** There is no relationship between the adequacy of consumption of monounsaturated fat, calcium, magnesium, potassium, and nutritional status with the incidence of hypertension due to the hypertension at Posbindu PTM Puskesmas Tajur Tangerang City caused by many factors such as age, gender, education level, food intake, genetics, smoking habits, and stress. It is necessary to pay attention to intake supporting the health of the elderly people.

Keywords: hypertension, mineral, monounsaturated fatty acid, nutritional status

ABSTRAK

Latar Belakang. Hipertensi dapat menyebabkan berbagai penyakit yang saling berhubungan. Semakin bertambahnya umur maka fungsi fisiologis tubuh juga semakin berkurang dan terjadi perubahan-perubahan terutama pada perubahan fisiologis karena dengan semakin bertambahnya umur, fungsi organ tubuh akan semakin menurun baik karena faktor alamiah maupun karena penyakit. Hipertensi juga sering dikaitkan dengan status gizi karena seseorang yang memiliki berat badan lebih cenderung mengalami hipertensi daripada orang dengan berat badan normal. Salah satu gangguan kesehatan yang paling banyak dialami oleh lansia yaitu berkurangnya kekuatan jantung. Asupan makan sangat berperan penting dalam menunjang kesehatan dan kontrol tekanan darah. **Tujuan.** Penelitian ini bertujuan untuk mengetahui hubungan tingkat kecukupan

Lampran 5 The Description of Blood Pressure in The Elderly Social Institution, Wana Sraya Denpasar and Santi Elderly Social Institution, Tabanan

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The Description of Blood Pressure in The Elderly at Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar and Santi Elderly Social Institution, Tabanan

1st IG Yudiana Putra
Nursing Academy of Kesda
IX/Udayana
Denpasar, Indonesia
yudianakesdam@gmail.com

2nd NP Eka Febianingsih
Nursing Academy of Kesda
IX/Udayana
Denpasar, Indonesia
putufebi_ph@yahoo.com

3rd NM Sri Muryani
Nursing Academy of Kesda
IX/Udayana
Denpasar, Indonesia
srimuryanimade@gmail.com

Abstract—The most common health problem due to aging process is hypertension. These health problems often occur in the elderly due to the decreased function of the heart, liver, and kidney organs as well as the increased function of the elderly body organs caused by the decreasing of needed body cell number. If hypertension is not treated well, it can arise various complications that can worsen the health. This study aims to learn the description of blood pressure in the elderly at Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar and Santi Elderly Social Institution, Tabanan. The research design used was descriptive method. Total population of 50 elderly, 8 elderly did not meet the criteria so that it took 42 respondents. The research instrument used was observation sheets, Sphygmomanometer and Stethoscope. Data processing was done by using computerization. Data were presented textually and accompanied with a table. There were 21 respondents (50%) with normal blood pressure meanwhile 21 other respondents (50%) showed an increase in blood pressure ranging from high normal category, 1st degree hypertension and 2nd degree hypertension. Most of the elderly blood pressure shows normal blood pressure with a range of <130 - <85 mmHg of 21 respondents (50%).

Keywords—Blood Pressure, Elderly, Descriptive

1. INTRODUCTION

The aging process is a cycle of life characterized by the stages of decreased functions of various organs in the body. This is due to the increasing age therefore there are changes in the structure and function of cells, tissues and organ systems. These changes affect the deterioration of physical health which will ultimately affect the susceptibility to the diseases [1].

Health problems mainly found as the result of the aging process are hypertension. This health problem is often found in the elderly due to the function decrease of the body organs; the heart, kidneys due to the decreased number of the body cells. In general, hypertension is also a health problem because the elderly who have hypertension have a higher risk of morbidity and mortality. Hypertension is a condition where there is an increase in systolic blood pressure that reaches a number above 140 mmHg and a diastolic above 90 mmHg [2].

The prevalence of hypertension in Indonesia; found the prevalence of hypertension in the elderly aged 55-64 in Indonesia is quite high, 44.9%, at the age of 65-74 years as much as 57.6% and at the age of more than 75 years as

much as 63.8%. In the province of Bali, based on data from Bali Provincial Health Service on non-communicable diseases (PTM), recorded the number of cases of hypertension in the elderly detected in 2011 as many as 15,843 cases, in 2012 as many as 22,837 cases and in 2013 as many as 29,867 cases [3].

Uncontrolled hypertension can cause narrowing of the arteries leading to one of the kidneys resulting in kidney injury. At the same time, degenerative changes occur in the arterioles that bear high pressure continuously. Changes in blood supply to the myocardium to pump blood to the heart, heart must work hard to overcome the reverse pressure of the aortic estuary, as the result of this workload, the left ventricular muscle is hypertrophied or enlarged and it causes dilatation and enlargement of the heart [4].

Research Objectives: Knowing the Description of Blood Pressure in the Elderly at Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar And Santi Elderly Social Institution, Tabanan.

II. METHODS

The type of research was a descriptive method. The research locations were at Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar and Santi Elderly Social Institution, Tabanan. The sampling technique was purposive sampling. From the total population of 50 elderly, there were 8 elderly who do not meet the criteria for inclusion including elderly who suffered psychiatric disorders and elderly who were not willing to be respondents, so the number of samples in this study was 42 respondents. The research instrument was an observation sheet. The tools to measure blood pressure were a Sphygmomanometer and a Stethoscope. Data collection was in the form of primary data and secondary data. Data were collected through the following procedures: Implementing approaches to the research subjects; Explaining the aims and objectives of the research; Ensuring the legality of consent with an approval letter being the subject of research; Determining the sample; Observing respondents with an observation sheet; Measuring blood pressure; Recording the measurement results; Performing data processing. Data processing was done by using computerization. Data were presented textually, accompanied by tables.

III. RESULTS

Characteristics of Respondents at Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar And Santi Elderly Social Institution Elderly, Tabanan it showed that in

Lampiran 6 Gambaran tekanan darah lanjut usia (lansia) di Sentra Vaksinasi Covid-19 Universitas Tarumanagara Jakarta

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Gambaran tekanan darah lanjut usia (lansia) di Sentra Vaksinasi Covid-19 Universitas Tarumanagara Jakarta

Olivia Charissa

Bagian Ilmu Gizi Fakultas Kedokteran Universitas Tarumanagara, Jakarta, Indonesia
*korespondensi email: oliviach@fk.untar.ac.id

ABSTRAK

Lanjut usia (lansia) adalah seseorang yang telah mencapai usia 60 tahun ke atas. Secara fisiologis terjadi penurunan fungsi yang dihubungkan dengan terjadinya penyakit tidak menular. Salah satu penyakit tidak menular yang banyak dialami lansia adalah hipertensi yang ditandai dengan peningkatan tekanan darah. Lansia merupakan golongan yang memiliki risiko sangat tinggi dan peningkatan tekanan darah menjadi salah satu komorbid pada infeksi covid-19. Studi ini bersifat deskriptif dan dilaksanakan di sentra vaksinasi Universitas Tarumanagara pada bulan Maret-April 2021. Subjek sebanyak 441 orang diperoleh secara *total sampling*. Data tekanan darah responden diolah menggunakan SPSS untuk mendapatkan distribusi dan persentase. Dari 441 orang subyek, mayoritas subjek adalah perempuan 257 orang (58,3%) dan sebagian besar subjek berada dalam rentang usia 60-69 tahun (59,6%). Berdasarkan hasil pengukuran didapatkan 300 subjek memiliki tekanan darah $\geq 140/90$ mmHg (68 %). Sebagian besar lansia yang datang pada pelaksanaan vaksinasi di Universitas Tarumanagara memiliki tekanan darah yang tinggi berdasarkan pengukuran sebelum vaksinasi.

Kata kunci: lansia, tekanan darah, sentra vaksinasi Covid-19

PENDAHULUAN

Peningkatan keberhasilan pembangunan di berbagai bidang, salah satunya di bidang kesehatan menyebabkan terjadinya peningkatan usia harapan hidup penduduk.¹ Pada tahun 2015 populasi lanjut usia (lansia) dunia mencapai 900 juta orang dan 602 juta orang (70%) di antaranya berada pada negara-negara berkembang dan 508 juta orang berdomisili di daerah Asia.² Di Indonesia, pada tahun 2000 jumlah lansia sekitar 5,3 juta (7,4%) dari total populasi, sedangkan pada tahun 2010 jumlah lansia 24 juta (9,77%) dari total populasi.

Persentase tersebut diperkirakan meningkat hingga 21,4% pada tahun 2050 dan 41 % di tahun 2100.^{1,3}

Menurut Kemenkes RI, lansia adalah seseorang yang telah mencapai usia 60 tahun ke atas.¹ Definisi lansia di Indonesia sebagai salah satu negara berkembang, mengacu pada Undang-undang 13 Tahun 1998 tentang Kesejahteraan Lanjut Usia yaitu seseorang yang mencapai usia 60 tahun ke atas.⁴ Lansia adalah golongan rentan yang dapat mengalami berbagai masalah metabolik dan sistemik. Proses fisiologis