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Systematic Review: Nutritional Needs of the Elderly in Indonesia

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Abstract. *This study aims to analyze the nutritional needs and nutritional status of the elderly in Indonesia through a systematic review approach. Literature was obtained from Google Scholar, Sinta, Scopus, PubMed, and NCBI databases published in the period 2020–2026. The results show that the elderly experience various nutritional problems, ranging from malnutrition to overweight and obesity. The nutritional status of the elderly is influenced by various interrelated factors, such as diet, chronic diseases, physical activity, lifestyle, and family support. Adequate intake of protein, fiber, vitamins, and minerals plays a crucial role in maintaining physical function, preventing degenerative diseases, and improving the quality of life of the elderly. Interventions such as nutrition education, implementing a healthy lifestyle, and utilizing local foods have been shown to have a positive impact on improving the nutritional status of the elderly. Family support also contributes to maintaining regular eating patterns and meeting nutritional needs. This study concludes that optimal nutritional management and early nutritional screening are important strategies to improve the health and quality of life of the elderly in Indonesia.*

Keywords: *Physical Activity, Family Support, Quality of Life, Elderly, Nutritional Status*

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INTRODUCTION

Population ageing has become an increasingly important public health concern because the ageing process is accompanied by physiological, metabolic, functional, and psychosocial changes that may affect food consumption, nutrient utilization, and overall nutritional status. Across the life course, unhealthy dietary behaviours, poor food choices, and nutritionally imbalanced intake have been associated with adverse health outcomes (Kansra et al., 2021; Mititelu et al., 2023; Almoraie et al., 2025). These concerns become particularly significant in older adults because age-related changes may reduce their capacity to maintain adequate dietary intake. In Indonesia, inappropriate dietary patterns, declining physical activity, and unhealthy lifestyle practices have been associated with nutritional problems and a lower quality of life among older adults (Zulfiani & Aulannisa, 2024).

The classification of older adults varies according to demographic, clinical, and policy contexts. Sudargo et al. (2021) classify the ageing population into middle age, covering individuals aged 45–59 years; elderly, aged 60–74 years; old age, aged 75–90 years; and very old age, referring to individuals older than 90 years. Within the Indonesian health-service context, the age of 60 years is generally used as the operational threshold for defining an older adult. The national classification also recognizes the pre-elderly population aged 45–59 years and high-risk older adults, particularly those aged over 70 years or individuals aged 60 years and above who

experience significant health problems. A clear operational definition is important because nutritional requirements and health risks may differ substantially across these age categories.

Indonesia's ongoing demographic and epidemiological transitions have increased the importance of addressing the health and nutritional needs of its ageing population. Developments in population structure, health-service provision, and national development have contributed to a growing number of people reaching older age (Mboi et al., 2018; Sukmayadi & Yahya, 2020; Shaturaev, 2021). In 2020, older adults accounted for approximately 9.92% of the Indonesian population, representing around 26.82 million individuals. The demographic distribution also indicated a higher proportion of older women than older men, demonstrating that population ageing has both health and gender-related implications (Bintang & Mandagi, 2021). This demographic shift requires health services to respond not only to the increasing prevalence of chronic and degenerative diseases but also to the complex nutritional problems experienced by older adults.

Community-based health services have consequently become an important component of elderly healthcare in Indonesia. Various regions, including West Nusa Tenggara Province, have developed *Posyandu Lansia* or Integrated Health Posts for Older Adults. These facilities primarily provide promotive and preventive services while also supporting curative and rehabilitative care according to community needs (Mampa et al., 2022; Halimsetiono, 2021). Such services are strategically positioned to conduct nutritional screening, provide dietary education, monitor chronic diseases, and identify older adults who are at risk of malnutrition. Nevertheless, the effectiveness of these services depends on their ability to recognize the multidimensional determinants of nutritional status rather than addressing dietary intake as an isolated issue.

Malnutrition in older adults is a complex condition resulting from inadequate or imbalanced nutrient intake, impaired nutrient absorption or utilization, changes in body composition and body-cell mass, and declining physical or mental function. Its development may be influenced by reduced appetite, chewing and swallowing difficulties, chronic disease, medication use, functional limitations, psychological conditions, and limited social support. Malnutrition may subsequently contribute to reduced immunity, loss of muscle mass, functional dependency, greater vulnerability to illness, and a lower quality of life (Espinosa-Salas & Gonzalez-Arias, 2023; Roberts et al., 2021; Nurhidayati et al., 2023). At the same time, older adults may also experience overweight and obesity, indicating that this population is vulnerable to both undernutrition and overnutrition. Nutritional management is therefore central to healthy ageing and should include early identification of nutritional risk, adequate nutrient intake, and interventions that reflect individual health and functional conditions.

Lifestyle factors further interact with dietary intake in determining the nutritional status of older adults. Healthy ageing is generally supported by regular and appropriate physical activity, avoidance of smoking, and sustained engagement in other health-promoting behaviours (Rippe, 2018; Tokgozoglu et al., 2020; Warburton & Bredin, 2016; Sallis et al., 2016; Shuval et al., 2017; Velten et al., 2018). Inadequate physical activity may reduce energy expenditure, contribute to an increased waist-to-hip ratio, and elevate the risk of overweight and metabolic disorders. Conversely, appropriate physical activity can help maintain muscle mass, functional capacity, metabolic health, and independence in later life (Roberts et al., 2021; Yunieswati et al., 2023). Nutritional status is also influenced by the social environment because family involvement can support food provision, meal regularity, dietary monitoring, and adherence to healthy behaviours among older adults (Hidayat & Usman, 2020).

Although studies in Indonesia have examined dietary patterns, nutritional status, physical activity, chronic diseases, lifestyle, and family support among older adults, their findings remain dispersed across different settings, populations, research designs, and outcome measures. This fragmentation limits the development of an integrated understanding of the nutritional needs of the Indonesian elderly population. A systematic synthesis is therefore required to identify recurring nutritional problems, clarify the principal factors associated with nutritional status, and

evaluate the interventions that may support healthier ageing. Accordingly, this systematic review aims to analyse the nutritional needs and nutritional status of older adults in Indonesia and to synthesize evidence regarding the dietary, health-related, behavioural, and social factors that influence their nutritional conditions.

METHODS

Research Sources and Methods

This review aims to determine the nutritional needs of older adults in Indonesia. A literature search was conducted through several electronic databases, such as Google Scholar, Sinta, and Scopus. The literature used was limited to publications published between 2020 and 2026. A bibliography was also searched for relevant articles based on their titles and keywords related to the nutritional needs of older adults.

Keywords

"Elderly" OR "Elderly" OR "Aging" AND "nutritional needs" OR "nutritional needs"

"Elderly" OR "Elderly" AND "nutritional status" OR "nutrition status"

Research Article Selection

Search results are limited to research articles published between 2020 and 2026 and available in both Indonesian and English.

Inclusion Criteria

The exclusion criteria in this study are as follows: (1) Full text research articles; (2) Research in Indonesian and English; (3) Research discussing nutritional needs or nutritional status in the elderly; (4) Research conducted in the period 2020–2026; (5) Research with quantitative, qualitative, or mixed methods designs; (6) Research containing information related to factors that influence the nutritional needs of the elderly.

Exclusion Criteria

The exclusion criteria in this study are as follows: (1) Review articles, opinions, editorials, and case reports; (2) Articles that cannot be accessed in full (full text); (3) Duplicate articles; (4) Research titles and content that are not relevant to the topic of nutritional needs of the elderly. Research with these criteria is excluded.

Data Extraction and Management

The obtained articles were selected in stages. First, a title screening was conducted to eliminate articles that did not meet the inclusion criteria. Second, an abstract review was conducted to determine their suitability to the research topic and to remove duplicate articles. Third, a comprehensive review of the full text was conducted to ensure the suitability of the articles for analysis. Data collected from each article included the following aspects : (1) Title of the research article; (2) Respondent characteristics (age, gender, health condition); (3) Type of research and research design; (4) Variables studied (nutritional needs, nutritional status, influencing factors); (5) Research results; (6) Research conclusions. This research used a systematic review method, with literature sources obtained from PubMed, NCBI (*National Library of Medicine*), and Google Scholar with a minimum standard of SINTA V and Scopus Q5. The selected articles were published in 2020–2026, accessible in full text, and discuss nutritional needs, nutritional status, and factors influencing nutritional conditions in the elderly in Indonesia.

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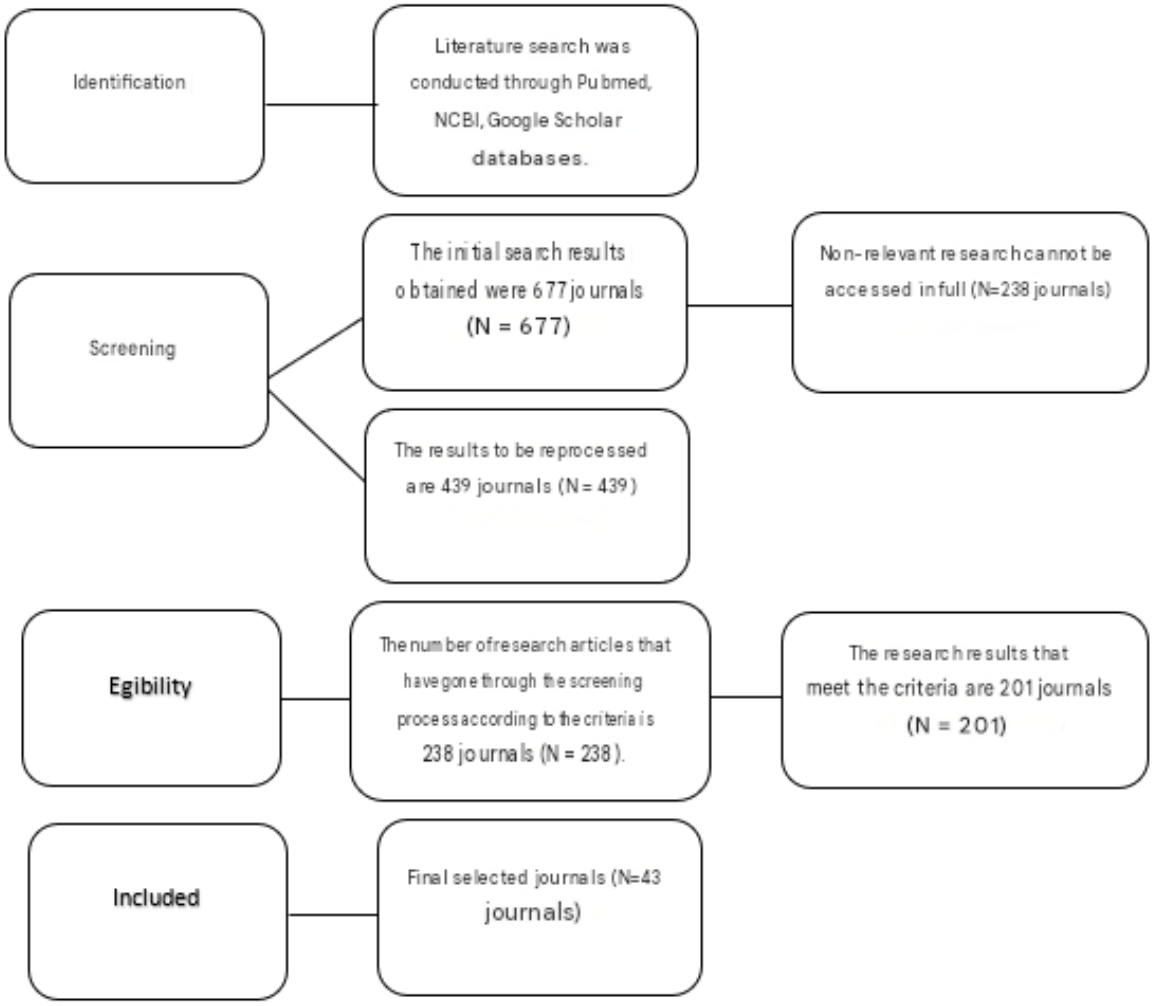

Figure 1. Identification of Systematic Review

RESULT AND DISCUSSION

As shown in the flowchart (Figure 1), approximately 677 articles were initially identified using specific keywords. After several stages of screening based on inclusion and exclusion criteria, the articles eligible for review and summary are then presented in Table 1.

Table 1. Journal Study of Nutritional Needs in the Elderly

No	Article Title	Respondent Characteristics	Type & Design	Variables	Research result	Conclusion	Reference
1	Hubungan Pola Makan, Status Gizi Dengan Kualitas Hidup Lansia	Elderly ≥60 years, M/F, community	Cross-sectional	Diet, nutritional status, quality of life	Older adults with a balanced diet (sufficient energy, protein, and micronutrients) have a normal BMI and higher quality of life scores. Older adults with an irregular diet are more likely to	Diet plays a direct role in the nutritional status and quality of life of the elderly.	Zulfiani & Aulannisa, 2024

No	Article Title	Respondent Characteristics	Type & Design	Variables	Research result	Conclusion	Reference
					experience malnutrition (underweight/overweight) and decreased physical and social function.		
2	Status gizi berhubungan dengan kualitas hidup lansia	Elderly people at the community health center	Cross-sectional	Nutritional status, quality of life	Older adults with normal nutritional status exhibit better physical function, greater independence, and higher psychological well-being. Conversely, malnutrition is associated with fatigue, activity limitations, and a reduced quality of life.	Nutritional status is an important determinant of the quality of life of the elderly.	Nurhidayati et el., 2021
3	Studi investigasi malnutrisi pada lansia	Elderly people with various conditions	Observational	Malnutrition, a risk factor	A high prevalence of malnutrition was found due to decreased appetite, dental problems, chronic illness, and psychosocial factors. Malnutrition results in decreased immunity and an increased risk of disease.	Malnutrition in the elderly is multifactorial and has systemic impacts.	Nurhidayati et al., 2023
4	Analisis status gizi pada lanjut usia	Community elderly	Descriptive	Nutritional status	The distribution of nutritional status shows the presence of underweight, normal weight, and obese elderly. Factors contributing to this include diet, physical activity,	The nutritional status of the elderly varies greatly depending on lifestyle and health conditions.	Ramadhan, 2023

No	Article Title	Respondent Characteristics	Type & Design	Variables	Research result	Conclusion	Reference
					and degenerative diseases.		
5	Peran Keluarga dalam Meningkatkan Status Gizi pada Lansia	Seniors + family	Qualitative	Family support	Elderly people who receive family support (food provision, meal supervision, emotional support) have better and more regular nutritional intake. Elderly people who live alone are at greater risk of malnutrition.	The family has an important role in fulfilling the nutritional needs of the elderly.	Hidayat, 2020
6	Hubungan Gaya Hidup Dan Pola Makan Dengan Status Gizi Lanjut Usia (Lansia) Di Desa Rejasa, Kec. Penebel, Kab. Tabanan	Village elderly	Cross-sectional	Lifestyle, diet, nutritional status	Elderly people with low physical activity and a high-fat diet are more likely to be obese. Conversely, adequate physical activity and a balanced diet are correlated with a normal BMI.	Lifestyle and diet have a significant influence on nutritional status	Yastini, 2021
7	Utilization of Mini Nutrition Assessment-Short Form to Identify Nutritional Status of Hospitalized Elderly Patients at Dr	Hypertensive elderly	Comparative	Micronutrients, nutritional status	Overweight older adults with hypertension have higher sodium and lower potassium intakes than those without hypertension. Micronutrient imbalances exacerbate high blood pressure.	Micronutrient requirements differ based on nutritional status and disease.	Susetyowati, 2024

No	Article Title	Respondent Characteristics	Type & Design	Variables	Research result	Conclusion	Reference
	Sardjito General Hospital, Yogyakarta						
8	Education on Fiber Needs for Elderly Constipation	Elderly health center	Intervention	Fiber intake, constipation	After education, there was an increase in daily fiber consumption and a decrease in the incidence of constipation. The elderly also experienced improved bowel patterns.	Effective nutrition education increases fiber intake and digestive health.	Alexander, 2024
9	Fulfilling the nutritional needs of the elderly through local processed food products and nutritional counseling	Community elderly	Intervention	Nutritional intake	Using local foods increases energy, protein, and micronutrient intake. Elderly people are more receptive to food because it aligns with their habits.	Local food and nutritional counseling effectively improve nutritional fulfillment	Sulistiawati, 2022
10	A study of factors contributing to the nutritional status of elderly people receiving home care	Elderly home care	Observational	Nutritional status, social factors	Nutritional status is influenced by health conditions, depression, cognitive function, and social support. Elderly people with functional limitations are more vulnerable to malnutrition.	The nutritional status of the elderly is influenced by physical, psychological and social factors.	Stratidaki, 2024

Discussion

Based on a systematic review of 43 selected articles, it was found that the nutritional status of the elderly falls within a broad spectrum, ranging from underweight and normal weight to overweight and obesity. This variation indicates that the elderly are a group vulnerable to the double burden of malnutrition, which includes not only malnutrition but also overnutrition (Nurhidayati et al., 2023; Barazzoni & Gortan, 2020; Hanandita & Tampubolon, 2015). Physiological changes resulting from the aging process are one of the main factors influencing nutritional status in the elderly. The elderly experience a decrease in basal metabolic rate, changes in gastrointestinal function, impaired nutrient absorption, and decreased sensitivity to taste and smell, which impact appetite. In addition, changes in body composition, such as decreased muscle mass (sarcopenia) and increased body fat, also contribute to changes in nutritional status in the elderly (Nurhidayati et al., 2023; Wowor & Wantania, 2020).

Nutritional Needs in the Elderly

Nutritional needs in the elderly change with age. Energy needs tend to decrease due to reduced basal metabolism and physical activity, but the need for certain nutrients actually increases to help maintain optimal body function (Mustofa et al., 2023; Smith et al., 2018; Amawi et al., 2024; Hazim et al., 2024). Protein is one of the most essential nutrients because it plays a role in maintaining muscle mass and preventing sarcopenia. Therefore, inadequate protein intake can lead to decreased muscle strength and increase the risk of falls in the elderly (Groenendijk et al., 2024; Larocque et al., 2015; Isanejad et al., 2016; Coelho-Junior et al., 2020). Furthermore, fiber is also important for maintaining digestive health, where increased fiber consumption has been shown to reduce the incidence of constipation and help control blood sugar and cholesterol levels (Sulistiawati & Septiani, 2022).

Micronutrients such as calcium and vitamin D play a vital role in maintaining bone health, while potassium helps control blood pressure, and other vitamins and minerals support metabolic and nervous system function. An imbalance in intake, such as high sodium and low potassium, can exacerbate hypertension in the elderly (Trisnowati et al., 2024). On the other hand, energy balance must still be considered because energy deficiency can lead to malnutrition and decreased immunity. Meanwhile, excess energy, especially due to excessive fat consumption, can increase the risk of obesity and cardiovascular disease (Mustofa et al., 2023; Piché et al., 2020; Wali et al., 2020; Wu et al., 2019). Therefore, meeting the nutritional needs of the elderly must emphasize the quality and balance of intake, including adequate protein. sufficient, adequate fiber, balanced micronutrients, and consumption of healthy fats, so that it can support the achievement of optimal nutritional status and improve the overall quality of life of the elderly.

The Relationship Between Diet and Nutritional Status in the Elderly

Research results show that diet is a major determinant of the nutritional status of the elderly. Elderly individuals with irregular eating patterns, low protein intake, and insufficient vitamin and mineral intake are at higher risk of malnutrition (Trianaputri & Rantung, 2025). Other studies also show that consuming foods high in fat and low in fiber is associated with an increased incidence of overweight and obesity in the elderly. This unbalanced diet not only impacts nutritional status but also increases the risk of degenerative diseases (Zulfiani & Aulannisa, 2024).

Furthermore, decreased meal frequency and difficulty chewing due to dental problems also affect the quantity and quality of nutritional intake. Therefore, adjusting a diet tailored to the needs of the elderly is an important intervention to maintain optimal nutritional status (Zulfiani & Aulannisa, 2024).

The Effect of Chronic Diseases on Nutritional Status

Chronic diseases such as hypertension, diabetes mellitus, and cardiovascular disease are closely related to the nutritional status of the elderly. Elderly people with chronic illnesses often

experience certain dietary restrictions that can lead to imbalanced nutritional intake (Trisnowati et al., 2024). For example, elderly people with hypertension often have high sodium intakes accompanied by low potassium intakes, which can contribute to poor blood pressure control. Furthermore, chronic inflammation and increased metabolic demands due to disease can also accelerate the development of malnutrition. Chronic illnesses can also cause decreased appetite, impaired nutrient absorption, and increased catabolism, thus worsening the nutritional status of elderly people (Trisnowati et al., 2024).

The Role of Social Factors and Family Support

Social factors, particularly family support, have been shown to significantly influence the nutritional status of elderly people. Elderly people who receive family support tend to have more regular eating patterns, more adequate nutritional intake, and better nutritional status (Fadilah & Nurhadianti, 2022). Family support can include providing nutritious food, monitoring dietary patterns, and emotional support (Maia et al., 2025; Skouteris et al., 2022; Gupta et al., 2025). Conversely, elderly people who live alone or experience social isolation are at greater risk of malnutrition due to a lack of attention to nutritional needs. Furthermore, economic factors and access to food are also important determinants in meeting the nutritional needs of elderly people.

The Influence of Lifestyle and Physical Activity

Lifestyle, particularly physical activity levels, is significantly related to nutritional status in the elderly. Elderly individuals with low levels of physical activity tend to be at greater risk of becoming overweight due to an imbalance between energy intake and energy expenditure (Latifah, 2024). Conversely, adequate physical activity can help maintain energy balance, maintain muscle mass, and improve metabolism in the elderly. Physical activity also plays a role in preventing degenerative diseases and improving the quality of life in the elderly (Yunieswati et al., 2023; Groenendijk et al., 2024). However, it is important to note that physical activity in the elderly must be tailored to the individual's health condition and abilities to avoid the risk of injury (Hanani et al., 2021).

Effectiveness of Nutrition Interventions in the Elderly

Several studies in this systematic review indicate that nutrition interventions have a positive impact on the nutritional status of the elderly. Nutrition education has been shown to increase the knowledge and awareness of older adults regarding the importance of a balanced diet, which can ultimately influence changes in eating behavior for the better. Interventions such as increasing fiber consumption, for example, have been shown to reduce the incidence of constipation in older adults and improve digestive health. Furthermore, utilizing local foods as a source of nutrition has also been shown to be effective in increasing energy, protein, and micronutrient intake, as they are more readily accepted and align with older adults' dietary habits.

Relationship Between Nutritional Status and Quality of Life in the Elderly

Nutritional status is closely related to the quality of life in older adults. Elderly individuals with good nutritional status generally have optimal physical function, are more independent in carrying out daily activities, and have a more stable psychological state (Grønning et al., 2018). Conversely, malnutrition is associated with increased fatigue, decreased physical function, and an increased risk of disease and death. This suggests that nutritional status is an important indicator in assessing the overall well-being of older adults. Based on the overall research results, it can be concluded that the nutritional status of the elderly is influenced by various interrelated factors, such as diet, chronic diseases, physical activity levels, and social and psychological factors.

Most studies used a cross-sectional design, so the relationships found were associative and could not demonstrate a direct cause-and-effect relationship. This condition is one of the limitations in interpreting the research results.

However, the consistency of findings across studies suggests that interventions focused on improving diet, increasing physical activity, and family support have significant potential to improve the nutritional status and quality of life of older adults.

CONCLUSION

Based on the results of a systematic review of the nutritional needs of the elderly in Indonesia, it can be concluded that meeting nutritional needs in the elderly is a crucial aspect in maintaining health and quality of life, and is a complex and multidimensional public health issue. Indonesia's demographic transition toward an aging population structure demands a healthcare system that is more responsive to the nutritional needs of the elderly, considering that the nutritional status of the elderly is the result of accumulated dietary and lifestyle patterns from a young age that contribute to the emergence of degenerative diseases in later life. Therefore, early detection through nutritional screening is a crucial step in efforts to prevent nutritional problems in this age group. Routine nutritional status screening using validated instruments such as *the Mini Nutritional Assessment* (MNA) needs to be increased in all healthcare facilities to ensure early identification and appropriate management of malnutrition risks. Furthermore, meeting nutritional needs, particularly protein and micronutrients such as vitamin D, calcium, and vitamin B12, should be a top priority in elderly diet planning, given the high prevalence of inadequate nutritional intake, particularly among elderly in institutions such as nursing homes. Furthermore, healthy lifestyle interventions through regular physical activity, stress management, and health education need to be continuously strengthened to prevent metabolic decline, obesity, and metabolic syndrome in the elderly. Furthermore, family and social support play a crucial role in successfully meeting the nutritional needs of the elderly, particularly in monitoring diet and adherence to a healthy lifestyle.

SUGGESTION

Nutritional screening for the elderly is expected to be conducted regularly in healthcare facilities using validated standard instruments. Healthcare workers also need to be more active in providing education regarding the nutritional needs of the elderly. Furthermore, elderly care institutions such as nursing homes are advised to implement menu standards based on the 2019 Nutritional Adequacy Intake (AKG) tailored to the physiological conditions of the elderly. Strengthening the role of families in monitoring the nutritional status of the elderly also needs to be increased, and further research is needed on the development of functional foods based on local ingredients that are appropriate to the needs of the elderly, such as being easy to chew, easy to swallow, and nutrient-dense. This is expected to optimally improve the quality of life of the elderly in Indonesia.

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