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An Overview Of The Implementation Of Balanced Nutrition For The Elderly In Sianipar Sihail-Hail Village, Balige District, Toba Regency, In 2026

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Abstract

Ageing makes older adults vulnerable to nutritional problems, both undernutrition and overnutrition, which are closely related to daily eating habits. Applying balanced nutrition is an important effort to maintain the health and independence of older adults. This study aimed to describe the application of balanced nutrition among older adults in Sianipar Sihail-hail Village, Balige District, Toba Regency. A descriptive cross-sectional design was used. The population comprised all 75 older adults in the village, and 40 respondents were selected through purposive sampling. Data were collected in November 2026 using a 13-item balanced nutrition practice questionnaire and measurements of body weight and height to determine Body Mass Index (BMI), then analysed univariately and presented as frequency distributions and cross-tabulations. Most respondents applied balanced nutrition at a moderate level (42.5%), followed by good (32.5%) and poor (25.0%). The least practised behaviours were consuming calcium sources (22.5%), eating at least two servings of fruit daily (35.0%), and limiting salt (37.5%). Most respondents had normal nutritional status (52.5%), while 17.5% were underweight and 30.0% were overweight or obese. Respondents with poor balanced nutrition practice were more often found to have abnormal nutritional status. Balanced nutrition practice among older adults is not yet optimal; continuous nutrition education through elderly integrated health posts (posyandu lansia), using local foods and involving families, is recommended.

Keywords: Balanced Nutrition, Older Adults, Eating Pattern, Nutritional Status, Body Mass Index

INTRODUCTION

The number of elderly people in Indonesia continues to grow alongside an increasing life expectancy. Statistics Indonesia (2023) notes that Indonesia has entered an "aging population" structure, defined as a state where the proportion of the population aged 60 and older exceeds 10 percent of the total population. This situation presents a distinct challenge for the health sector, as aging is accompanied by a decline in physiological bodily functions and an increased risk of degenerative diseases—such as hypertension, diabetes mellitus, gout, and heart disease (Indonesian Ministry of Health, 2016).

One of the most critical factors determining the quality of life for the elderly is their nutritional status. As individuals age, they undergo various changes that affect food intake, including a diminished sense of taste and smell, tooth loss, reduced saliva production, digestive issues, and decreased physical activity (Fatmah, 2010). These changes can lead to undernutrition; conversely, dietary habits high in salt, sugar, and fat can result in overnutrition. Both conditions increase the risk of disease and diminish the independence of the elderly (Cederholm et al., 2019).

Through the Minister of Health Regulation Number 41 of 2014, the government has established "Balanced Nutrition Guidelines." These guidelines outline a daily dietary composition that provides nutrients in types and quantities tailored to the body's needs, while emphasizing food diversity, physical activity, healthy living habits, and regular weight monitoring. For the elderly, these guidelines specifically recommend the adequate consumption of vegetables, fruits, protein, and calcium-rich foods; the limitation of salt, sugar, and fat intake; sufficient water consumption; and the maintenance of physical activity (Indonesian Ministry of Health, 2014; Indonesian Ministry of Health, 2019).

In practice, however, the implementation of balanced nutrition among the elderly in the community still faces numerous obstacles. The dietary patterns of the elderly in rural areas are generally influenced by long-standing traditions, food availability, economic conditions, and levels of knowledge (Notoatmodjo, 2012). In the Toba region, it is still common to consume dishes containing coconut milk, salted side dishes, and chili sauces with high salt content, while the consumption of fruits and milk remains relatively low. This is despite the region's significant potential for local food sources, such as freshwater fish from Lake Toba, leafy vegetables, and various tubers.

Sianipar Sihail-hail Village is a community served by the HKBP Balige Nursing Academy, with an elderly population of 75 individuals. Preliminary observations—conducted during elderly health post (*posyandu*) activities and family visits—revealed that some elderly residents report joint pain, high blood pressure, and fatigue, while others appear underweight. There is currently no data describing how the elderly in this village implement a balanced diet in their daily lives. Consequently, the researcher is interested in examining the implementation of a balanced diet among the elderly in Sianipar Sihail-hail Village, Balige District, Toba Regency, in 2026.

RESEARCH METHODS

This study employs a quantitative research design with a descriptive, cross-sectional approach, meaning that data on the variables were collected at a single point in time (Notoatmodjo, 2018). The research was conducted in Sianipar Sihail-hail Village, Balige District, Toba Regency, in November 2026.

The study population consisted of all elderly individuals aged 60 years and older registered in Sianipar Sihail-hail Village, totaling 75 people. A purposive sampling technique (Sugiyono, 2019) was used to select 40 respondents who met the following inclusion criteria: aged ≥ 60 years, permanent residents of the village, capable of effective communication, able to stand upright for height measurement, and willing to participate as respondents by signing an informed consent form. Exclusion criteria included elderly individuals who were severely ill or bedridden, those with severe cognitive impairment, and those following a specific medical diet prescribed by a physician.

The research instrument consists of three parts. The first part covers respondent characteristics (age, gender, education, occupation, and living status). The second part is a 13-item questionnaire on the implementation of balanced nutrition, developed based on the Balanced Nutrition Guidelines (Indonesian Ministry of Health, 2014), with response options of "yes" (score 1) and "no" (score 0). Total scores are categorized according to Arikunto (2013) as: good (76–100% or a score of 10–13), fair (56–75% or a score of 8–9), and poor (< 56% or a score of ≤ 7). The third part consists of an observation sheet for recording body weight—measured using a digital scale—and height—measured using a *microtoise* (stadiometer)—to calculate the Body Mass Index (BMI). Nutritional status is categorized according to the Ministry of Health's BMI classification: underweight (< 18.5 kg/m²), normal (18.5–25.0 kg/m²), overweight (25.1–27.0 kg/m²), and obese (> 27.0 kg/m²).

Data collection was conducted through guided interviews at integrated healthcare posts for the elderly (*posyandu lansia*) and via home visits, as some elderly individuals experience vision impairment that makes it difficult for them to complete questionnaires on their own. The data were analyzed using univariate analysis to describe the frequency distribution and percentage of each variable, and were presented in the form of a cross-tabulation between the implementation of a balanced diet and nutritional status. This study adhered to research ethics principles, including obtaining informed consent from

respondents, ensuring the anonymity and confidentiality of their identities, and upholding the respondents' right to decline participation or withdraw from the study.

RESULTS AND DISCUSSION

Characteristics of Respondents

The characteristics of the 40 elderly individuals who served as respondents are presented in Table 1.

Table 1. Distribution of Respondent Characteristics (n = 40)

Characteristics	f	%
Age		
60–69 years	23	57,5
70–79 years	13	32,5
≥ 80 years	4	10,0
Gender		
Male	14	35,0
Female	26	65,0
Highest level of education		
Primary school/equivalent	15	37,5
Junior high school/equivalent	12	30,0
Senior high school/equivalent	10	25,0
Higher education (university/college)	3	7,5
Occupation		
Farmer	21	52,5
Unemployed/homemaker	13	32,5
Retired	4	10,0
Self-employed	2	5,0
Living arrangement		
With family	31	77,5
Alone/only with spouse	9	22,5
Total	**40**	**100,0**

Source: Data primer, 2026

Table 1 shows that the majority of respondents are aged 60–69 years (57.5%), female (65.0%), have an elementary school education (37.5%), work as farmers (52.5%), and live with their families (77.5%).

Implementation of Balanced Nutrition

Table 2. Distribution of Balanced Nutrition Implementation by Indicator (n = 40)

Indicators of implementing a balanced diet	Ya (f)	%
Eating 3 main meals a day	30	75,0
Consuming vegetables daily	33	82,5
Consuming at least 2 servings of fruit per day	14	35,0
Consuming animal-based protein (fish, eggs, meat) daily	22	55,0
Consuming plant-based protein (tofu, tempeh, legumes)	25	62,5
Limiting salt and salty foods	15	37,5
Limiting sugar and sweet foods/beverages	19	47,5
Limiting fried foods and fatty or coconut milk-based dishes	16	40,0
Drinking 6–8 glasses of water per day	18	45,0
Consuming sources of calcium (milk, anchovies)	9	22,5

Indicators of implementing a balanced diet	**Ya (f)**	**%**
Engaging in physical activity for approximately 30 minutes per day	24	60,0
Monitoring body weight regularly	17	42,5
Washing hands before eating	34	85,0
Indicators of implementing a balanced diet	**Ya (f)**	**%**
Eating 3 main meals a day	30	75,0
Consuming vegetables daily	33	82,5
Consume at least 2 servings of fruit per day	14	35,0
Consume animal-based protein (fish, eggs, meat) daily	22	55,0
Consume plant-based protein (tofu, tempeh, legumes)	25	62,5
Limit salt and salty foods	15	37,5
Limit sugar and sweet foods/beverages	19	47,5

Source: Data primer, 2026

Table 2 shows that the practices most frequently carried out by the elderly are washing hands before meals (85.0%), consuming vegetables daily (82.5%), and eating three main meals a day (75.0%). Conversely, the practices least frequently carried out are consuming sources of calcium (22.5%), consuming at least two servings of fruit per day (35.0%), and limiting salt intake (37.5%).

Table 3. Distribution of Categories for the Implementation of Balanced Nutrition (n = 40)

Implementation category	**f**	**%**
Good	13	32,5
Fair	17	42,5
Poor	10	25,0
Total	**40**	**100,0**
Implementation category	**f**	**%**

Source: Data primer, 2026

Based on Table 3, the majority of the elderly follow a balanced diet that falls into the "adequate" category (42.5%), while 32.5% fall into the "good" category, and 25.0% fall into the "poor" category.

Nutritional Status of the Elderly

Table 4. Distribution of Nutritional Status Among the Elderly Based on BMI (n = 40)

Nutritional status (BMI)	**f**	**%**
Underweight (< 18.5)	7	17,5
Normal (18.5–25.0)	21	52,5
Overweight (25.1–27.0)	7	17,5
Obese (> 27.0)	5	12,5
Total	**40**	**100,0**

Source: Data primer, 2026

Table 4 shows that the majority of the elderly have a normal nutritional status (52.5%). Nevertheless, nearly half of the elderly have an abnormal nutritional status: 17.5% are underweight, 17.5% are overweight, and 12.5% are obese.

Table 5. Implementation of Balanced Nutrition Based on Nutritional Status

Implementation	Underweight f (%)	Normal f (%)
Good	1 (7,7)	10 (76,9)
Fair	2 (11,8)	9 (52,9)
Poor	4 (40,0)	2 (20,0)
Total	**7 (17,5)**	**21 (52,5)**

Source: Data primer, 2026

Table 5 shows that among 13 elderly individuals who followed a well-balanced diet, the majority (76.9%) had a normal nutritional status. Conversely, among 10 elderly individuals with poor dietary adherence, only 20.0% had a normal nutritional status, while 40.0% were classified as underweight, and another 40.0% were classified as overweight or obese.

Discussion

Implementation of Balanced Nutrition Among the Elderly

Research findings indicate that the implementation of balanced nutrition among the elderly in Sianipar Sihail-hail Village is largely categorized as "sufficient," while one-quarter of the respondents fall into the "insufficient" category. This suggests that while most elderly individuals follow some principles of balanced nutrition, they do not yet adhere to them comprehensively. According to Notoatmodjo (2012), health-related behavior is influenced by predisposing factors (knowledge, attitudes, education), enabling factors (availability of facilities and resources), and reinforcing factors (support from family and healthcare workers). The low level of formal education among the respondents—most of whom only completed primary or junior high school—likely affects their understanding of the importance of dietary variety and the need to limit the intake of salt, sugar, and fat.

Positive practices include the daily consumption of vegetables and the habit of eating three meals a day. This is understandable, as most respondents work as farmers and have easy access to vegetables grown in their own gardens, such as cassava leaves, water spinach, and mustard greens. Such habits are beneficial, as vegetables are sources of fiber, vitamins, and minerals essential for preventing constipation and degenerative diseases in the elderly (Fatmah, 2010).

Conversely, the consumption of fruit and calcium-rich foods remains low, and the restriction of salt intake is inadequate. The low consumption of fruit may be linked to the perception that fruit is not a primary necessity, as well as to economic constraints. Insufficient calcium intake among the elderly risks accelerating bone loss, even though the Recommended Dietary Allowance (RDA) for calcium remains high in old age (Indonesian Ministry of Health, 2019). Affordable sources of calcium are actually available within the village, such as small fish (eaten whole with their bones), tofu, tempeh, and green leafy vegetables. Meanwhile, the habit of consuming salty side dishes, chili-based condiments (*sambal*), and foods cooked with coconut milk remains deeply ingrained in their daily diet. This habit warrants attention because excessive salt consumption is linked to the occurrence of hypertension, a condition frequently experienced by the elderly (Indonesian Ministry of Health, 2014).

Furthermore, 55.0% of the elderly do not consume sufficient amounts of water. Older adults tend to experience less thirst due to a decline in the sensitivity of the thirst center, while some intentionally limit their fluid intake to avoid frequent urination. This situation needs to be addressed through education, as a lack of fluids can lead to dehydration, constipation, and urinary tract infections.

Nutritional Status of the Elderly

While the majority of the elderly have a normal nutritional status, nearly half of the respondents fall into abnormal categories—specifically being underweight, overweight, or obese. These findings indicate a "double burden" of malnutrition among the elderly population in this village. Those who are underweight tend to be older, report a diminished appetite, and experience dental issues; this aligns with the theory that physiological changes associated with aging lead to reduced food intake (Guigoz et al., 1994; Fatmah, 2010). Conversely, those who are overweight or obese tend to have lower levels of physical activity while maintaining the same portion sizes—particularly regarding rice consumption and dishes prepared with coconut milk. The 2023 Indonesian Health Survey further highlights

that overweight and obesity among adults remain a significant national health concern (Indonesian Ministry of Health, 2023).

Implementation of Balanced Nutrition and Nutritional Status

Cross-tabulation reveals that elderly individuals who effectively implement balanced nutrition guidelines are more likely to have a normal nutritional status, whereas those with poor implementation are more likely to have an abnormal nutritional status. Although this study is descriptive and does not statistically test these relationships, the observed pattern is consistent with the principles of balanced nutrition—which emphasize dietary diversity, appropriate portion sizes, physical activity, and regular weight monitoring as key factors in maintaining a healthy weight (Indonesian Ministry of Health, 2014). Currently, only 42.5% of the elderly monitor their weight on a regular basis, meaning that changes in body weight often go unnoticed in their early stages. This underscores the vital role of *posyandu lansia* (integrated health posts for the elderly) as hubs for ongoing weight monitoring and nutritional education, in line with policy directives aimed at improving the health of the elderly population (Indonesian Ministry of Health, 2016; WHO, 2020). The limitations of this study include its descriptive design, which cannot establish causal relationships; a relatively small sample size; and the fact that data on the implementation of balanced nutrition were based on respondents' self-reports, which may introduce recall bias. Furthermore, nutritional status was assessed solely using BMI, failing to provide a detailed account of nutrient intake. Future research should consider employing an analytical design, incorporating dietary intake assessments (such as a food recall) or the Mini Nutritional Assessment instrument (Kaiser et al., 2009), and exploring the factors that influence the implementation of balanced nutrition.

CONCLUSION

The implementation of balanced nutrition among the elderly in Sianipar Sihail-hail Village, Balige District, Toba Regency, in 2026, falls mostly into the "fair" category (42.5%), followed by "good" (32.5%) and "poor" (25.0%). The practices least frequently adopted include the consumption of calcium sources and fruits, as well as the restriction of salt intake. While the majority of the elderly have a normal nutritional status (52.5%), some are underweight (17.5%), and others are overweight or obese (30.0%). A higher proportion of elderly individuals with poor adherence to balanced nutrition are found to have an abnormal nutritional status.

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