Original Research

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Descriptive Analysis of Characteristics and Participation Levels of the Elderly in the Gymnastics Program in the Working Area of Klasaman Primary Health Center, Sorong City

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ABSTRACT

Background: The natural aging process causes a decline in the biological, psychological, and physical functions of the elderly. Promotive and preventive programs, such as elderly gymnastics (senam lansia), are essential for maintaining their fitness and independence. However, a comprehensive evaluation of its implementation at the primary healthcare level remains inadequately documented. This study aimed to describe the implementation of the elderly gymnastics program in the Working Area of Klasaman Primary Health Center (Puskesmas Klasaman), Sorong City. Methods: This was a quantitative study using a descriptive design, conducted from February to July 2026 at Klasaman Primary Health Center. The population comprised 292 elderly individuals living in Klawuyuk Village and Klasaman Village. Data collection instruments included an observation checklist and structured interviews, covering activity frequency, gymnastics stages, health education, physical health screenings, and Supplementary Feeding (Pemberian Makanan Tambahan / PMT). Data were analyzed using descriptive statistics.
Results: Univariate analysis revealed that the activity level of elderly gymnastics had a mean score of 13.73 with a standard deviation of 2.518. The implementation of the elderly gymnastics program at Klasaman Primary Health Center runs periodically and structurally every Friday, directly integrated with Elderly Posyandu (Posyandu Lansia) activities, health education, physical examinations, and supplementary feeding (PMT). Conclusion; The elderly gymnastics program at Klasaman Primary Health Center has been well-implemented and integrated. It is recommended for future researchers to employ more complex research designs, such as analytical or experimental approaches, to examine the relationships and direct effects of the elderly gymnastics program.

Keywords: *Elderly Gymnastics, Health Promotion, Primary Health Center, Elderly Health.*

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1. INTRODUCTION

The elderly represent a population segment experiencing the natural aging process, characterized by a decline in biological, psychological, and social functions. Aging leads to reduced muscle strength, joint flexibility, body balance, and cardiorespiratory capacity, thereby increasing the risk of physical activity limitations, falls, and various degenerative diseases. These conditions negatively impact functional capacity and quality of life among the elderly, necessitating promotive and preventive efforts to maintain their health and independence (Montero-Odasso et al., 2022; WHO, 2025).

The growth of the elderly population poses a major public health challenge globally, including in Indonesia. The World Health Organization (WHO) estimates that by 2030, one in six people worldwide will be aged 60 years or older. In Indonesia, Statistics Indonesia (BPS) reported that the elderly population has reached nearly 29 million people, representing approximately 12% of the total population, indicating that Indonesia has entered an aging population phase. This demographic shift has prompted the government to strengthen various programs supporting healthy, active, and productive aging (Badan Pusat Statistik, 2024; Kemenkes, 2024).

The rising elderly population is accompanied by an increased prevalence of chronic conditions and musculoskeletal disorders, such as hypertension, osteoarthritis, and balance impairments, which impair functional ability. Regular physical activity has been proven effective in preserving physical function, improving balance, reducing fall risks, and enhancing overall quality of life. Consequently, physical activity serves as a primary strategy in achieving healthy aging within the community (Sherrington et al., 2020; WHO, 2024).

One recommended form of physical activity for older adults is elderly gymnastics (*senam lansia*). Elderly gymnastics consists of physical exercises tailored to the physiological capabilities and conditions of older adults, making it safe for regular practice. This activity aims to improve muscle strength, joint flexibility, body balance, and cardiovascular endurance, as well as maintain functional independence in daily living activities. Beyond its physical benefits, elderly gymnastics contributes to enhancing social interaction, reducing stress, and supporting mental health and quality of life (Hidayati et al., 2026; Kemenkes, 2024; Sherrington et al., 2020).

Numerous studies have substantiated the health benefits of elderly gymnastics. A study by Fatmawati et al. (2020) demonstrated that routine participation in elderly gymnastics significantly reduced the risk of falls. Similarly, Darsini and Arifin (2017) found that elderly gymnastics positively influenced independence in performing Activities of Daily Living (ADL). Furthermore,

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Darmawan et al. (2021) reported that elderly gymnastics enhanced quality of life across physical, psychological, social, and environmental domains. These findings indicate that elderly gymnastics is an effective promotive intervention for supporting healthy aging.

As part of primary healthcare services, Primary Health Centers (*Puskesmas*) play a pivotal role in implementing health maintenance programs for the elderly through Integrated Health Posts for the Elderly (*Posyandu Lansia*), including periodic elderly gymnastics sessions. This program aims to boost physical fitness, preserve independence, and encourage active participation among the elderly in managing their health. Program success depends not only on the availability of gymnastics sessions but also on implementation regularity, participant coverage, healthcare worker support, and community engagement. Therefore, the implementation of elderly gymnastics programs requires periodic documentation and evaluation as a foundation for improving elderly healthcare service quality (Kemenkes, 2024; WHO, 2025).

Preliminary data collected on February 24, 2026, at Klasaman Primary Health Center revealed a registered population of 671 elderly individuals across four working areas: Klasaman Village (158), Klawuyuk Village (134), Kalasuat Village (113), and Giwu Village (257). Gymnastics activities are conducted every Friday in conjunction with the *Posyandu Lansia* program. In addition, participants receive health education, physical health screenings, and Supplementary Feeding (*Pemberian Makanan Tambahan* / PMT).

Interview results indicated a continuous year-over-year increase in elderly gymnastics participants, reflecting high interest among the elderly population. However, according to the program coordinator, a comprehensive study describing the execution of the elderly gymnastics program at Klasaman Primary Health Center has not yet been conducted. Furthermore, health center records show a high prevalence of conditions such as hypertension, diabetes mellitus, myalgia, gout, and vertigo among the elderly population, emphasizing the critical role of elderly gymnastics as a supportive health intervention.

Based on these considerations, a study describing the implementation of the elderly gymnastics program at Klasaman Primary Health Center is essential to evaluate current operations and establish a baseline for developing elderly healthcare services.

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2. METHODS

This study utilized a quantitative method with a descriptive research design. Quantitative research involves using numerical data analyzed statistically to describe a phenomenon objectively. A descriptive design aims to depict or describe the state, characteristics, or phenomena of a population without applying interventions or testing hypotheses between variables

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3. RESULTS

Research Results

a. Age

Table 1. *Age Distribution of Elderly Respondents at Klasaman Primary Health Center, Sorong City, 2026*

Variable	N	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
Age	30	60	81	66.53	6.078	0.730	-0.624

Based on Table 1, descriptive statistical analysis shows the age characteristics of the 30 elderly respondents at Klasaman Primary Health Center in 2026. The mean age was 66.53 years with a standard deviation of 6.078. The oldest respondent was 81 years old, while the youngest was 60 years old. Furthermore, the skewness value of 0.730 and kurtosis value of -0.624 indicate that the age distribution is normally distributed. This demonstrates that most respondents belonged to the early-to-late elderly age groups with a homogeneous distribution

b. Gender

Table 2. *Gender Distribution of Elderly Respondents at Klasaman Primary Health Center, Sorong City, 2026*

Gender	Frequency	Percentage(%)
Male	7	23,3
Female	23	76,7
Total	30	100

Based on Table 2, frequency distribution analysis reveals that among the 30 respondents, 7 were male (23.3%), whereas female respondents constituted a significantly larger proportion,

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totaling 23 individuals (76.7%). This indicates that the majority of elderly respondents in this study were female.

c. Educational Attainment

Table 3. Educational Attainment Distribution of Elderly Respondents at Klasaman Primary Health Center, Sorong City, 2026

Educational Level	Frequency (f)	Percentage (%)
Elementary School (SD)	6	20.0
Junior High School (SMP)	13	43.3
Senior High School (SMA)	6	20.0
Bachelor's Degree (S1)	5	16.7
Total	30	100.0

Based on Table 3, frequency distribution analysis shows that 6 respondents completed elementary school (20.0%), 13 completed junior high school (43.3%), 6 completed senior high school (20.0%), and 5 held a bachelor's degree (16.7%). This indicates that nearly half of the elderly respondents achieved junior high school as their highest educational level.

d. Occupational

Table 6. *Occupational Distribution of Elderly Respondents at Klasaman Primary Health Center, Sorong City, 2026*

Occupation	Frequency (f)	Percentage (%)
Homemaker (IRT)	9	30.0
Farmer	7	23.3
Entrepreneur / Self-Employed	7	23.3
Civil Servant (PNS)	7	23.3

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Occupation	Frequency (f)	Percentage (%)
Total	30	100.0

e. Gymnastics Participation

Table 5. *Elderly Gymnastics Participation Distribution at Klasaman Primary Health Center, Sorong City, 2026*

Participation Status	Frequency (f)	Percentage (%)
Yes	30	100.0
No	0	0.0
Total	30	100.0

f. Medical History

Table 6. *Medical History Distribution among Elderly Respondents at Klasaman Primary Health Center, Sorong City, 2026*

Disease / Condition	Frequency (f)	Percentage (%)
Myalgia	9	30.0
Hypertension	8	26.7
Diabetes Mellitus (DM)	7	23.3
Gout (Asam Urat)	2	6.7
Hypercholesterolemia	1	3.3
Hearing Impairment	1	3.3
Gastritis	1	3.3
Acute Respiratory Infection (ISPA)	1	3.3
Total	30	100.0

4. RESULT AND DISCUSSION

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This study aimed to examine the socio-demographic characteristics, health conditions, and participation of elderly individuals in the elderly gymnastics program at Klasaman Primary Health Center, Sorong City. Overall, the findings demonstrate an optimal and well-integrated implementation of promotive and preventive health services for the elderly within a primary healthcare setting in Eastern Indonesia.

Socio-Demographic Characteristics of the Elderly

The findings revealed that the mean age of participants was 66.53 ± 6.078 years, ranging from 60 to 81 years. This age distribution reflects that the program primarily attracts individuals in the early-to-late elderly stages. Aging is inherently characterized by progressive physiological changes, including reduced musculoskeletal strength, decreased joint flexibility, and diminished cardiorespiratory endurance (WHO, 2025). Engaging in regular, low-impact exercise such as elderly gymnastics is crucial for this demographic to mitigate age-related functional decline and maintain autonomy in daily living activities (Sherrington et al., 2020).

Regarding gender distribution, female respondents dominated the sample (76.7%). This higher participation rate among elderly women aligns with numerous community health studies showing that women tend to exhibit higher health-seeking behaviors and greater active engagement in community-based healthcare initiatives, such as *Posyandu Lansia*, compared to men (Montero-Odasso et al., 2022). Furthermore, a significant proportion of participants were homemakers (30.0%), which likely provided greater schedule flexibility to participate in the Friday morning sessions compared to those with full-time occupations.

In terms of educational background, nearly half of the participants had completed junior high school (*SMP*, 43.3%), while the remainder possessed elementary (20.0%), senior high (20.0%), or tertiary education (16.7%). Health literacy and educational attainment play essential roles in shaping health awareness and encouraging healthy behaviors. However, the active involvement of elderly individuals across diverse educational levels indicates that community-based programs utilizing accessible, practical activities—such as gymnastics paired with direct health education—effectively bridge literacy gaps and foster inclusive community participation.

Health Status and Disease Profile

Analysis of the participants' medical history highlighted that myalgia (30.0%), hypertension (26.7%), and diabetes mellitus (23.3%) were the most prevalent health conditions among the elderly at Klasaman Primary Health Center. These findings reflect global and national health trends, where

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non-communicable and degenerative diseases represent the leading causes of morbidity in aging populations (BPS, 2024; Kemenkes, 2024).

The high prevalence of myalgia underscores the burden of musculoskeletal discomfort among older adults, often exacerbated by joint degeneration, physical inactivity, or occupational physical stress during earlier years. Regular participation in elderly gymnastics serves as an effective non-pharmacological management strategy for myalgia by improving blood circulation, enhancing joint mobility, and reducing muscle stiffness (Fatmawati et al., 2020). Similarly, for chronic conditions like hypertension and diabetes mellitus, structured aerobic and light resistance exercise promotes cardiovascular regulation, enhances insulin sensitivity, and aids in blood pressure control (Darmawan et al., 2021).

A key finding of this study is the 100% participation rate among the sampled elderly, indicating that all respondents were active members of the gymnastics program. The successful implementation at Klasaman Primary Health Center can be attributed to its structured and integrated service delivery model. Holding the gymnastics sessions every Friday in conjunction with *Posyandu Lansia* activities which include health screenings, medical consultations, health education, and Supplementary Feeding (*Pemberian Makanan Tambahan*/ PMT) creates a holistic health promotion package.

This integrated approach addresses multiple health needs in a single visit, thereby increasing participant motivation and program adherence. From a motor learning and physiological perspective, repetitive, structured physical activity conducted under supervision helps build motor memory and movement precision among older adults. This allows participants to perform movement routines safely and adaptively, thereby preserving musculoskeletal integrity, improving postural balance, and reducing the risk of accidental falls (Darsini & Arifin, 2017; Sherrington et al., 2020).

The findings demonstrate that primary health centers (*Puskesmas*) play a vital role as front-line institutions in advancing *healthy ageing* initiatives, particularly in underserved or Eastern Indonesian regions like Sorong City. Documenting and evaluating community-level programs provides essential evidence to support sustainable health planning, adequate resource allocation, and continuous service quality improvement (Kemenkes, 2024; WHO, 2025).

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5. CONCLUSION

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Based on the research findings and discussion concerning respondent characteristics and program execution at Klasaman Primary Health Center, Sorong City, it can be concluded that the elderly gymnastics program is implemented in an optimal and structured manner. The repetitive and monitored nature of the exercise routine successfully fosters motor memory among participants, enabling them to perform movement techniques precisely, safely, and adaptively to preserve musculoskeletal function in older age

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