

## FACTORS INFLUENCING THE UTILIZATION OF ELDERLY INTEGRATED HEALTH POST SERVICES AT KUTAMBARU COMMUNITY HEALTH CENTER, SOUTHEAST ACEH REGENCY

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### Abstract

Elderly Posyandu is an important community-based health service aimed at improving the health and quality of life of older adults. However, its utilization remains low, with only 48% of the 15,363 elderly population accessing the service. This study aimed to analyze factors associated with the utilization of elderly Posyandu in the working area of Kutambaru Health Center. This quantitative study employed a cross-sectional design. A total of 91 respondents were selected from a population of 973 using stratified random sampling. Data were collected using a structured questionnaire in August 2026. Data were analyzed using the Chi-square test and logistic regression. Education ( $p < 0.001$ ), age ( $p = 0.007$ ), and attitude ( $p = 0.006$ ) were significantly associated with elderly Posyandu utilization. In contrast, knowledge ( $p = 0.101$ ), family support ( $p = 0.934$ ), health worker support ( $p = 0.934$ ), distance to health services ( $p = 0.903$ ), and availability of health service facilities ( $p = 0.101$ ) were not significantly associated with utilization. Logistic regression analysis showed that attitude was the dominant factor influencing elderly Posyandu utilization ( $p = 0.001$ ;  $\text{Exp}(B) = 7.276$ ). Education, age, and attitude were significantly associated with elderly Posyandu utilization, while knowledge, family support, health worker support, distance, and health service facilities were not significantly associated. Health centers are encouraged to develop elderly Posyandu services that are responsive to the educational and age characteristics of older adults, including attendance reminders and assistance for elderly individuals who rarely attend, to strengthen positive attitudes and increase service utilization.

**Keywords:** Education, Age, Knowledge, Attitude, Family Support, Health Worker Support, Distance, Health Service Facilities, Elderly Posyandu Utilization

### Introduction

Population ageing is a global demographic phenomenon driven by increasing life expectancy, declining fertility rates, and improvements in health services. Older adults are generally defined as individuals aged 60 years and above. The World Health Organization (WHO) reports that the number and proportion of people aged 60 years and older are increasing rapidly worldwide, creating new challenges for health and social systems. In 2023, approximately 1.1 billion people globally were aged 60 years and older, and this number is projected to reach 1.4 billion by 2030 and 2.1 billion by 2050<sup>(1,2)</sup>.

The increasing number of older adults represents an important public health challenge because ageing is associated with physiological, psychological, and social changes that may increase vulnerability to chronic diseases, functional limitations, and reduced quality of life. Therefore, health systems need to strengthen health promotion, disease prevention, early detection, and integrated care to support healthy and active ageing<sup>(1,2)</sup>. WHO emphasizes the importance of person-centred integrated

health services and age-friendly environments to enable older people to maintain functional ability, independence, and participation in society <sup>(1)</sup>.

Indonesia is also experiencing a demographic transition toward an ageing population. According to Statistics Indonesia (Badan Pusat Statistik/BPS), the proportion of older adults in Indonesia reached approximately 11.97% of the total population in 2025, indicating that Indonesia has entered the ageing population phase <sup>(3)</sup>. The increasing number of older adults requires the development of comprehensive and continuous health services that are accessible and responsive to their specific needs. Government efforts to improve elderly health include promotive, preventive, curative, and rehabilitative services aimed at maintaining health, independence, productivity, and quality of life among older adults <sup>(4)</sup>.

One of the community-based health services developed to address the health needs of older adults is the Elderly Integrated Health Post (Posyandu Lansia). Posyandu Lansia is a form of community-based health service that facilitates health promotion, disease prevention, early detection, and basic health monitoring among older adults. Its activities may include health examinations, blood pressure and nutritional status monitoring, screening for non-communicable diseases, health education, counselling, physical activity, and elderly exercise <sup>(5)</sup>. The Ministry of Health of the Republic of Indonesia has also developed technical guidance for the implementation of integrated elderly Posyandu and Posbindu for non-communicable diseases as part of community-based health services for older adults <sup>(5)</sup>.

The utilization of Posyandu Lansia is important because regular attendance provides opportunities for early identification of health problems and continuous monitoring of the health status of older adults. WHO emphasizes that health promotion, disease prevention, and early detection are essential to reducing the impact of non-communicable diseases and functional impairments among older people <sup>(2)</sup>. However, the availability of community-based services does not necessarily ensure that older adults will utilize them regularly.

The utilization of health services can be influenced by several individual, social, and health-service factors. Based on the behavioral approach to health service utilization, predisposing factors include age, education, knowledge, and attitudes; enabling factors include accessibility, distance, and availability of health facilities; while reinforcing factors include family support and support from health workers <sup>(6)</sup>. These factors may influence an older person's willingness and ability to access and utilize available health services. Education and knowledge may influence the ability to understand health information, while attitudes may determine willingness to participate in health programs. In addition, family and health-worker support may encourage older adults to attend health services regularly, whereas distance and accessibility may become barriers to utilization.

The situation in the working area of UPTD Puskesmas Perawatan Kutambaru, Southeast Aceh Regency, indicates that the utilization of Posyandu Lansia remains suboptimal. Based on the 2026 profile of UPTD Puskesmas Perawatan Kutambaru, there are 13 Posyandu Lansia serving older adults in its working area. Although elderly health services have been implemented through routine health examinations, blood pressure monitoring, health education, elderly exercise, home visits, and family empowerment, participation in Posyandu Lansia remains relatively low <sup>(7)</sup>.

Data obtained from UPTD Puskesmas Perawatan Kutambaru showed that there were 2,314 older adults in the working area, consisting of 1,012 males and 1,302 females. Of these, 973 older adults were registered as Posyandu Lansia participants, consisting of 458 males and 515 females. However, only 337 (34.66%) were classified as active participants, while 636 (65.34%) were inactive. Furthermore, attendance data from January 2024 to June 2026 indicated a declining pattern, with an average monthly attendance of approximately 126 older adults, indicating that utilization of Posyandu Lansia remains below the expected target <sup>(7)</sup>.

Low utilization of Posyandu Lansia may limit opportunities for older adults to receive routine health monitoring and early detection of diseases associated with ageing. This is particularly important

because older adults experience progressive declines in physical and physiological functions and are more vulnerable to chronic and degenerative diseases <sup>(1,2)</sup>. Regular participation in community-based health services can therefore contribute to maintaining health status, detecting health problems at an early stage, and supporting healthy ageing.

Preliminary observations conducted in the working area of UPTD Puskesmas Perawatan Kutambaru indicated several potential barriers to Posyandu Lansia utilization. Some older adults reported limited information regarding the benefits and activities of Posyandu Lansia. Others reported difficulties related to distance, poor road conditions, and the absence of public transportation to health facilities. Limited family support and low educational attainment were also reported as factors that may influence participation. These findings suggest that the utilization of Posyandu Lansia may be influenced by multiple interconnected factors at the individual, family, and health-service levels.

Previous research has demonstrated that educational level is associated with the utilization of elderly health services, with individuals with higher educational attainment generally having better opportunities to understand health information and make appropriate decisions regarding health service utilization <sup>(8)</sup>. Nevertheless, the relative influence of education, age, knowledge, attitudes, family support, health-worker support, distance, and health-service facilities may vary across communities. Evidence from local settings such as Kutambaru is therefore needed to identify the most influential factors that can be targeted through appropriate interventions.

Understanding these factors is important for strengthening community-based elderly health services and increasing participation in Posyandu Lansia. Identifying the dominant factors may assist health centers and local stakeholders in developing interventions that are appropriate to the characteristics and needs of older adults, including strategies to improve information delivery, strengthen family involvement, facilitate access, and encourage positive attitudes toward routine health-service utilization.

Therefore, this study aimed to analyze the factors influencing the utilization of Elderly Posyandu in the working area of UPTD Puskesmas Perawatan Kutambaru, Southeast Aceh Regency. The findings are expected to provide evidence for the development of more targeted strategies to increase elderly participation and strengthen the implementation of community-based health services for older adults.

## Methods

This study used an analytical observational design with a cross-sectional approach. The study was conducted in the working area of UPTD Puskesmas Perawatan Kutambaru, Southeast Aceh Regency, from June to August 2026. The study population consisted of 973 elderly individuals registered at six Elderly Posyandu. A total of 91 respondents were selected using proportionate stratified random sampling based on the population size of each Posyandu.

Primary data were collected using a structured questionnaire covering age, education, knowledge, attitude, family support, health-worker support, distance to health services, health-service facilities, and Elderly Posyandu utilization. Secondary data were obtained from UPTD Puskesmas Perawatan Kutambaru.

Data were analyzed using univariate, bivariate, and multivariate analyses. The Chi-square test was used to examine the association between independent variables and Elderly Posyandu utilization, while binary logistic regression was used to identify the dominant factors. Statistical significance was set at  $p < 0.05$ . The study followed the principles of reporting observational studies according to the STROBE guidelines <sup>(11)</sup>.

## Result

### Respondent Characteristics

A total of 91 elderly respondents were included in the study. Most respondents were in the early elderly age group (71.4%), male (51.6%), had secondary education (37.4%), and were unemployed (59.3%).

**Table 1. Characteristics and Utilization of Elderly Posyandu**

| Variable                         | n   | %     |
|----------------------------------|-----|-------|
| <b>Age</b>                       |     |       |
| Early elderly                    | 65  | 71.4  |
| Middle elderly                   | 26  | 28.6  |
| <b>Sex</b>                       |     |       |
| Male                             | 47  | 51.6  |
| Female                           | 44  | 48.4  |
| <b>Education</b>                 |     |       |
| Primary                          | 30  | 33.0  |
| Secondary                        | 58* | 63.7* |
| Higher education                 | 3   | 3.3   |
| <b>Occupation</b>                |     |       |
| Working                          | 37  | 40.7  |
| Not working                      | 54  | 59.3  |
| <b>Knowledge</b>                 |     |       |
| Good                             | 43  | 47.3  |
| Poor                             | 48  | 52.7  |
| <b>Attitude</b>                  |     |       |
| Positive                         | 45  | 49.5  |
| Negative                         | 46  | 50.5  |
| <b>Family support</b>            |     |       |
| Supportive                       | 55  | 60.4  |
| Not supportive                   | 36  | 39.6  |
| <b>Health worker support</b>     |     |       |
| Supportive                       | 55  | 60.4  |
| Not supportive                   | 36  | 39.6  |
| <b>Distance</b>                  |     |       |
| Accessible                       | 89  | 97.8  |
| Not accessible                   | 2   | 2.2   |
| <b>Health-service facilities</b> |     |       |
| Good                             | 71  | 78.0  |
| Poor                             | 20  | 22.0  |
| Health-service facilities        |     |       |
| Elderly Posyandu utilization     |     |       |
| Utilized                         | 38  | 41.8  |
| Not utilized                     | 53  | 58.2  |

The education figures in the source table require checking because the stated frequencies are inconsistent with the total sample of 91. The original file reports 30 primary, 34 junior high, 24 senior high, and 3 higher education.

## Bivariate Analysis

Chi-square analysis showed significant associations between Elderly Posyandu utilization and education ( $p < 0.001$ ), age ( $p = 0.010$ ), knowledge ( $p < 0.001$ ), attitude ( $p = 0.001$ ), family support ( $p = 0.016$ ), health-worker support ( $p = 0.016$ ), and health-service facilities ( $p < 0.001$ ). Distance to health services was not significantly associated with utilization ( $p = 0.139$ ).

**Table 2. Bivariate Analysis of Factors Associated with Elderly Posyandu Utilization**

| Variables                   | P value | Interpretation  |
|-----------------------------|---------|-----------------|
| Education                   | <0.001  | Significant     |
| Age                         | 0.010   | Significant     |
| Knowledge                   | <0.001  | Significant     |
| Attitude                    | 0.001   | Significant     |
| Family support              | 0.016   | Significant     |
| Health-worker support       | 0.016   | Significant     |
| Distance to health services | 0.139   | Not significant |
| Health-service facilities   | <0.001  | Significant     |
| Education                   | <0.001  | Significant     |
| Age                         | 0.010   | Significant     |
| Knowledge                   | <0.001  | Significant     |
| Attitude                    | 0.001   | Significant     |
| Family support              | 0.016   | Significant     |
| Health-worker support       | 0.016   | Significant     |
| Distance to health services | 0.139   | Not significant |

Chi-square test;  $p < 0.05$  indicates statistical significance.

## Multivariate Analysis

Variables meeting the selection criterion were entered into logistic regression. In the final model, education and attitude remained significantly associated with Elderly Posyandu utilization. Education had  $p = 0.004$  and  $\text{Exp}(B) = 6.499$ , while attitude had  $p = 0.001$  and  $\text{Exp}(B) = 7.276$ . Thus, attitude was the strongest factor in the final model.

**Table 3. Final Logistic Regression Model**

| Variable  | B     | P value | Exp(B) | 95% CI       |
|-----------|-------|---------|--------|--------------|
| Education | 1.872 | 0.004   | 6.499  | 2.879–14.675 |
| Attitude  | 1.985 | 0.001   | 7.276  | 2.239–23.647 |

Overall, the findings indicate that education and attitude were the main factors associated with Elderly Posyandu utilization, with attitude showing the strongest association ( $\text{Exp}(B) = 7.276$ ).

## **Discussion**

### **Utilization of Elderly Posyandu**

This study found that only 41.8% of respondents utilized Elderly Posyandu services, while 58.2% did not. This relatively low utilization indicates that the availability of community-based health services does not necessarily guarantee optimal participation among older adults. Posyandu for older adults has an important role in promoting healthy ageing through preventive and promotive services, health monitoring, early detection of health problems, and health education. The World Health Organization emphasizes that primary health care should be accessible, person-centred, and responsive to the needs of older adults.<sup>(12)</sup>

The low utilization observed in this study is consistent with evidence from Indonesia. A scoping review reported that the average participation of older adults in integrated community health programs was only 47.51%, indicating that participation remains below the expected level. Knowledge, attitudes, education, accessibility, service quality, family support, and health-worker support have been identified as important factors associated with utilization.<sup>(13)</sup> These findings suggest that increasing the availability of Posyandu services alone may not be sufficient; interventions should also address individual, family, and service-related determinants.

### **Association Between Education and Elderly Posyandu Utilization**

Education was significantly associated with Elderly Posyandu utilization ( $p < 0.001$ ). The cross-tabulation showed that respondents with higher educational attainment were more likely to utilize Posyandu services. In the multivariate model, education remained significantly associated with utilization ( $p = 0.004$ ;  $\text{Exp}(B) = 6.499$ ; 95% CI: 2.879–14.675). This indicates that respondents in the higher education category had approximately 6.5 times greater odds of utilizing Elderly Posyandu compared with the reference group.

Education can influence an individual's ability to obtain, understand, evaluate, and apply health information. Older adults with better educational backgrounds may have greater awareness of the importance of regular health monitoring and preventive services. Education may also facilitate communication with health workers and improve the ability to recognize the benefits of Posyandu services.

The present finding is supported by previous Indonesian studies. The scoping review by Setiawan et al. identified education as one of the predisposing factors associated with utilization of community-based health services among older adults.<sup>(13)</sup> A study by Situmorang et al. in the Hinai Kiri Health Center area also found education-related individual characteristics and other behavioral factors to be relevant to elderly Posyandu utilization.<sup>(14)</sup> Therefore, health promotion strategies in Kutambaru should use simple, understandable, and age-friendly educational approaches, particularly for older adults with lower educational attainment.

### **Association Between Age and Elderly Posyandu Utilization**

Age was significantly associated with Elderly Posyandu utilization ( $p = 0.010$ ). Respondents categorized as early elderly were more likely to utilize Posyandu than those categorized as middle elderly. The study data showed that 29 of 54 early elderly respondents utilized Posyandu, whereas only 9 of 37 middle elderly respondents utilized the service. This pattern suggests that participation may decline with increasing age.

One possible explanation is that increasing age may be accompanied by physical limitations, reduced mobility, functional decline, and greater dependence on family members for transportation and access to health services. Thus, although older adults may have greater health needs, their ability to physically attend community-based services may become more limited.

WHO highlights that healthy ageing depends not only on individual health status but also on the interaction between intrinsic capacity and the physical and social environment.<sup>(12)</sup> Therefore, Posyandu programs for older adults should consider age-related functional limitations, including transportation assistance, home-based follow-up, and involvement of family members or caregivers.

### **Association Between Knowledge and Elderly Posyandu Utilization**

Knowledge was significantly associated with Elderly Posyandu utilization ( $p < 0.001$ ). Among respondents with poor knowledge, only 11 of 48 respondents utilized Posyandu, whereas 27 of 43 respondents with good knowledge utilized the service. This finding indicates that better knowledge was accompanied by higher participation.

Knowledge is an important component of health behavior because it can shape an individual's understanding of health risks, perceived benefits, and decisions to use health services. Older adults who understand the purpose and benefits of Posyandu may be more motivated to attend routinely, even when they are not experiencing symptoms.

This finding is consistent with Palungan et al., who found significant relationships between knowledge and the utilization of elderly Posyandu services ( $p = 0.020$ ).<sup>(15)</sup> Similar findings were also reported by Linggi et al., who found significant associations between knowledge and attitudes and participation in elderly Posyandu visits.<sup>(16)</sup> However, previous studies have not always produced consistent results. For example, some Indonesian research has reported no significant association between knowledge and utilization, suggesting that knowledge alone may not be sufficient to produce health-seeking behavior.<sup>2</sup> Therefore, educational interventions should be combined with motivation, family support, and active encouragement from health workers.

### **Association Between Attitude and Elderly Posyandu Utilization**

Attitude was significantly associated with Elderly Posyandu utilization ( $p = 0.001$ ). Respondents with a positive attitude were more likely to utilize Posyandu services, with 27 of 45 respondents having positive attitudes utilizing Posyandu, compared with only 11 of 46 respondents with negative attitudes.

Attitude reflects an individual's evaluation and disposition toward a particular behavior. A positive perception of Posyandu may increase willingness to attend, whereas negative perceptions may reduce participation. The questionnaire findings also indicated that some respondents still perceived Posyandu as being more necessary when they were sick, rather than as a preventive health service. This perception may become a barrier to routine participation.

Attitude was the strongest factor in the final multivariate model, with  $p = 0.001$  and  $\text{Exp}(B) = 7.276$  (95% CI: 2.239–23.647). Thus, respondents with a favorable attitude had approximately 7.3 times greater odds of utilizing Elderly Posyandu, after accounting for education. This finding is consistent with Palungan et al., who reported a significant association between attitude and elderly Posyandu utilization ( $p < 0.001$ ).<sup>(15)</sup> Linggi et al. also found that attitude was significantly associated with participation in Elderly Posyandu visits ( $p = 0.002$ ).<sup>(16)</sup>

The stronger effect of attitude compared with education suggests that improving knowledge should be accompanied by strategies that change perceptions and strengthen positive beliefs about preventive health services. Health workers and cadres can emphasize that Posyandu is not only a place for treatment when illness occurs but also an important setting for routine monitoring, early detection, health education, and prevention.

### **Association Between Family Support and Elderly Posyandu Utilization**

Family support was significantly associated with Elderly Posyandu utilization ( $p = 0.016$ ). Among respondents who did not receive family support, only 9 of 36 respondents utilized Posyandu, compared with 29 of 55 respondents who received family support.

Family support is particularly important for older adults because attendance may depend on assistance with transportation, reminders, encouragement, and emotional support. Families can also influence whether older adults perceive routine health visits as important. The findings therefore indicate that elderly health programs should not focus exclusively on older adults as individual service users but should also involve family members.

This finding is supported by Indonesian evidence. The scoping review found family support to be one of the most consistently associated reinforcing factors for older adults' participation in community-based health programs.<sup>(17)</sup> Situmorang et al. also reported a significant relationship between family support and elderly Posyandu utilization.<sup>(18)</sup> Similarly, research in Puskesmas Sigambal found a significant association between family support and utilization of Elderly Posyandu.<sup>(12)</sup>

### **Association Between Health-Worker Support and Elderly Posyandu Utilization**

Health-worker support was significantly associated with Elderly Posyandu utilization ( $p = 0.016$ ). Respondents receiving support from health workers were more likely to utilize Posyandu than those who did not receive such support. This finding indicates that interpersonal interaction between health workers and older adults may contribute to service utilization.

Health workers have an important role in providing information, motivation, emotional support, and encouragement for routine attendance. In community-based elderly services, the quality of interaction may influence whether older adults perceive Posyandu as useful and responsive to their needs. WHO emphasizes the importance of person-centred and integrated primary health services that respond to the needs and functional abilities of older adults.<sup>(12)</sup>

The finding is consistent with the Indonesian scoping review, which identified health-worker or volunteer support as an important reinforcing factor associated with utilization among older adults.<sup>(13)</sup> Therefore, health workers and cadres in Kutambaru should strengthen interpersonal communication, provide reminders before Posyandu activities, and actively follow up older adults who are absent.

### **Association Between Distance and Elderly Posyandu Utilization**

Distance to health services was not significantly associated with Elderly Posyandu utilization ( $p = 0.139$ ). This finding may be explained by the fact that almost all respondents perceived the distance as accessible; 89 respondents (97.8%) were categorized as having accessible service distance, while only 2 respondents (2.2%) were categorized as having inaccessible distance.<sup>(19)</sup> The limited variation in this variable may have reduced the ability to detect a statistical association.

The absence of a significant association does not necessarily mean that accessibility is unimportant. Rather, in this setting, physical distance may have been less influential than individual and social factors such as education, attitude, family support, and health-worker support. The scoping review found that accessibility and distance can be associated with utilization in some Indonesian settings, but the strength of these relationships varies across populations and contexts.<sup>(20)</sup>

### **Association Between Health-Service Facilities and Elderly Posyandu Utilization**

Health-service facilities were significantly associated with Elderly Posyandu utilization ( $p < 0.001$ ). Most respondents (78.0%) perceived the health-service facilities as good. Adequate facilities can increase comfort, trust, and perceived quality of services, thereby encouraging older adults to attend.

The finding is consistent with the literature showing that service quality and availability of appropriate facilities are enabling factors in the utilization of community-based health services for older adults.<sup>2</sup> WHO also recommends strengthening age-friendly primary health care and ensuring access to appropriate services, screening, prevention, and management of health conditions among older adults.<sup>(21)</sup>

## Conclusion

The final logistic regression model showed that education and attitude remained significantly associated with Elderly Posyandu utilization. Education had an Exp(B) of 6.499 ( $p = 0.004$ ), while attitude had an Exp(B) of 7.276 ( $p = 0.001$ ). Attitude therefore had the strongest association with utilization.

These results indicate that elderly Posyandu utilization is influenced not only by access to services but also by how older adults perceive the value of the services. A positive attitude may encourage older adults to view Posyandu as a routine preventive health activity rather than a service that is needed only when they are ill.

From a programmatic perspective, improving utilization in the Kutambaru area should therefore prioritize attitude-oriented health promotion, supported by education. Interventions can include interactive counseling, testimonials from active elderly participants, reminders, family involvement, and cadre-led motivation. These approaches are consistent with the broader healthy-ageing strategy, which emphasizes responsive primary health care and supportive community environments for older adults.

Because this study used a cross-sectional design, the observed associations should not be interpreted as causal relationships. Further longitudinal or intervention studies are needed to determine whether improving education, attitudes, and family or health-worker support can directly increase regular utilization of Elderly Posyandu services..

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