Genius Journal of Nursing
An International Peer-Reviewed Journal
Published by Genius Publishing
https://geniusjournal.net/
genius.gjn@gmail.com

E-ISSN: 3124-5471 (Online)
Volume 2, Issue 1, 2026, pp. 18–26
https://doi.org/10.66763/gjn.v2i1.34

ORIGINAL ARTICLE

Determinants of Older Adults' Compliance with Community-Based Elderly Health Post Programs: A Cross-Sectional Study

Sri Astutik Andayani[1], S. Tauriana[2], Agung Prasetyo Nugroho[3]

[1] Universitas Nurul Jadid, Indonesia
[2] Universitas Nurul Jadid, Indonesia
[3] Universitas Nurul Jadid, Indonesia

ARTICLE INFORMATION

Article history:
Received: 2026-06-20
Revised : 2026-06-22
Accepted: 2026-06-25

Keywords:
Compliance; Elderly Health Post; Health Education; Knowledge; Older Adults; Social Support

Corresponding Author:

Sri Astutik Andayani
Universitas Nurul Jadid
Email:
astutikandayani@unuja.ac.id

How to cite:
Andayani, S. A., Tauriana, S., & Nugroho, A. P. (2026). Determinants of Older Adults' Compliance with Community-Based Elderly Health Post Programs: A Cross-Sectional Study. *Genius Journal of Nursing*, *2*(1), 18–26. https://doi.org/10.66763/gjn.v2i1.34

ABSTRACT

Background: Community-based elderly health post programs support preventive care and health monitoring for older adults. However, their effectiveness depends on older adults' compliance with scheduled activities.

Objectives: This study aimed to analyze the determinants of older adults' compliance with community-based elderly health post programs.

Methods: This cross-sectional study included 152 older adults selected using total sampling. Data were collected using structured questionnaires on age, educational level, knowledge, family support, social support, and compliance. Data were analyzed using descriptive statistics, bivariate tests, and binary logistic regression.

Results: More than half of the respondents were non-compliant with elderly health post programs (55.9%). Bivariate analysis showed that age, educational level, knowledge, family support, and social support were significantly associated with compliance. In the multivariate model, knowledge emerged as the dominant determinant of compliance (AOR = 29.641; 95% CI = 2.140–410.493; p = 0.011). Social support and age also remained significantly associated with compliance.

Conclusions: Knowledge was the strongest determinant of older adults' compliance with community-based elderly health post programs. Strengthening health education, repeated counselling, and social support from families, cadres, and health workers may improve older adults' participation and continuity of care.

Introduction

Population ageing has become an important public health concern because the number of older adults continues to increase and is accompanied by greater health, social, and long-term care needs (WHO, 2024). Older adults are more likely to experience chronic conditions, reduced functional ability, mobility limitations, and social vulnerability, which require accessible and continuous community-based health services (WHO, 2024; Yu et al., 2024). In Indonesia, the ageing population has also increased, making older adult health services an important priority in primary health care and community nursing (BPS, 2024). Therefore, health programs for older adults should not only focus on treatment but also strengthen prevention, health promotion, early detection, and social support within the community (Kementerian Kesehatan Republik Indonesia, 2023; Lyu & Fan, 2024).

Community-based elderly health posts, known in Indonesia as Posyandu Lansia, are designed to bring basic health services closer to older adults through community participation and primary care support (Kementerian Kesehatan Republik Indonesia, 2023). These programs generally provide health monitoring, counselling, health education, physical activity, nutritional monitoring, and referral when needed (Kementerian Kesehatan Republik Indonesia, 2023; Margaretha et al., 2021). Participation in elderly integrated health services has been associated with better quality of life and lower depression among older adults, indicating that regular attendance may provide both physical and psychosocial benefits (Margaretha et al., 2021). Community-based services are also important because they help older adults maintain social connection, access preventive care, and receive support within their living environment (Kim et al., 2024; Lyu & Fan, 2024).

The effectiveness of Posyandu Lansia depends strongly on older adults' compliance in attending scheduled activities and following health recommendations. Low compliance may reduce the benefits of community-based health services because older adults who do not attend regularly may miss opportunities for early detection, health education, and follow-up support (Trisfayeti & Idris, 2023; Sari et al., 2024). Evidence from Indonesia shows that the utilization of Posyandu Lansia remains low, even though these services are intended to improve older adults' access to health promotion and preventive care (Trisfayeti & Idris, 2023). A scoping review of integrated community health programs for older adults also reported that utilization is influenced by individual, family, social, and service-related factors (Sari et al., 2024).

Several personal factors may influence older adults' compliance with community-based elderly health post programs. Age may affect participation because older adults may experience illness, fatigue, physical decline, reduced mobility, or dependence on others to reach health services (WHO, 2024; Zhou et al., 2025). Educational level may also influence compliance because education affects how individuals understand health information, interpret the benefits of services, and make decisions related to their own health (Chesser et al., 2016; Sardareh et al., 2024). Health literacy is particularly important among older adults because the ability to obtain, process, and understand health information can shape health behaviour and service use (Chesser et al., 2016; Sardareh et al., 2024). Health literacy is also related to preventive health behaviour among older adults, including physical activity, screening behaviour, and perceived control over health (Fernandez et al., 2016). Therefore, education, knowledge, and health literacy are important personal factors that may shape older adults' willingness to attend health post activities.

Knowledge about the purpose and benefits of Posyandu Lansia is another important determinant of compliance. Older adults who understand the value of routine health monitoring may be more willing to attend community health activities and follow advice from cadres or health workers (Wawomeo et al., 2022; Linggi et al., 2024). Previous studies have shown that knowledge and attitudes are significantly related to older adults' participation in Posyandu Lansia visits (Linggi et al., 2024). This suggests that improving knowledge through clear information, counselling, and community education may increase older adults' motivation to participate in elderly health post programs (Wawomeo et al., 2022; Sari et al., 2024).

Family support is also closely related to older adults' compliance with community-based health services. Older adults may need family members to remind them of the schedule, accompany them to the health post, provide transportation, or encourage them when they feel physically weak or unmotivated (Wawomeo et al., 2022; Mah et al., 2021). A study on Posyandu Lansia participation found that family support was associated with older adults' involvement in elderly health services (Wawomeo et al., 2022). Recent evidence from Indonesia also shows that family support is significantly associated with elderly participation in community-based health post activities, indicating that family involvement remains essential for sustaining older adults' attendance (Abdillah et al., 2025). In broader community-based care, social factors such as living arrangements, informal caregiving, and family networks also influence the utilization of health and care services among older adults (Mah et al., 2021; Che & Cheung, 2024).

Social support from cadres, peers, health workers, and the surrounding community may further strengthen compliance. Supportive social relationships can help older adults feel valued, encouraged, and connected, which may increase their willingness to participate in community activities (Valtorta et al., 2018; Kim et al., 2024). A systematic review reported that older adults' social relationships are related to healthcare utilization, suggesting that weaker social relationships may influence how older adults access and use health services (Valtorta et al., 2018). Community-based services are more effective when supported by social networks, accessible services, and positive interaction between older adults, families, cadres, and health workers (Che & Cheung, 2024; Zhou et al., 2025).

Despite the benefits of elderly health post programs, attendance remains a challenge in many communities. Preliminary data in the study setting showed that 53 older adults were registered in the elderly health post, but only around 20–24 older adults attended the monthly activities. Information from local cadres indicated that non-attendance was commonly related to physical illness, lack of family members to accompany older adults, and limited support for attending the program. This situation indicates that compliance may be shaped by a combination of personal, family, and social factors rather than by a single factor alone.

Previous studies have examined the utilization of elderly health posts and community-based services among older adults (Margaretha et al., 2021; Trisfayeti & Idris, 2023; Sari et al., 2024). However, further evidence is needed to clarify which determinants are most strongly associated with older adults' compliance in attending community-based elderly health post programs, especially in rural community settings. Understanding these determinants is important because nurses, cadres, families, and primary health care providers need clear evidence to design focused strategies for improving participation. Therefore, this study aimed to analyze the determinants of older adults' compliance with community-based elderly health post programs, including age, educational level, knowledge, family support, and social support.

Methods

This study used an analytic observational design with a cross-sectional approach to examine the determinants of older adults' compliance with community-based elderly health post programs. The cross-sectional approach was used because all variables were measured at one point in time to identify the association between age, educational level, knowledge, family support, social support, and older adults' compliance.

The study population consisted of older adults who were registered as participants in community-based elderly health post programs. A total of 152 older adults were included as respondents using a total sampling technique. Respondents were eligible if they were registered in the elderly health post program, were willing to participate, and provided informed consent. Older adults who refused to participate or were unable to complete the questionnaire due to illness during data collection were excluded from the study.

The dependent variable was older adults' compliance with community-based elderly health post programs, defined as their consistency in attending activities, participating in health post programs, and following recommendations provided during

the program. The independent variables were age, educational level, knowledge, family support, and social support. Knowledge was measured based on respondents' understanding of the definition, objectives, benefits, location, and services of elderly health posts. Family support was assessed based on material and non-material support provided by family members, including reminding, motivating, accompanying, and assisting older adults to attend the program. Social support was assessed based on support from cadres, health workers, peers, and the surrounding community.

Data were collected using structured questionnaires. Before data collection, respondents received information about the study objectives, procedures, voluntary participation, confidentiality, and their right to withdraw from the study at any time. Respondents who agreed to participate completed the questionnaire after providing informed consent. For respondents who had difficulty reading or writing, the researcher assisted by reading the questions and recording the answers according to the respondents' responses. All completed questionnaires were checked for completeness before analysis.

Data were analyzed using descriptive and inferential statistics. Descriptive analysis was used to present respondent characteristics and the distribution of each variable using frequencies and percentages. Bivariate analysis was conducted to examine the association between each independent variable and older adults' compliance. The Chi-square test was used for categorical variables, while the Spearman rank test was used for ordinal variables. Multivariate analysis was performed using binary logistic regression to identify the dominant determinant of older adults' compliance with community-based elderly health post programs. Statistical significance was set at $p < 0.05$.

This study was conducted by respecting the principles of research ethics, including informed consent, anonymity, and confidentiality. Respondents' identities were not included in the research report, and all information obtained during data collection was kept confidential and used only for research purposes.

Results

A total of 152 older adults were included in this study. As shown in Table 1, most respondents were aged 60–74 years (46.1%), had no formal education (42.1%), and were female (61.8%). Regarding the main study variables, 67 respondents (44.1%) had good knowledge, 58 respondents (38.2%) received good family support, and 70 respondents (46.1%) received poor social support. In terms of compliance, 85 respondents (55.9%) were categorized as non-compliant, while 67 respondents (44.1%) were categorized as compliant with community-based elderly health post programs.

Table 1. Characteristics of Participants

Variable	Category	n	%
Age	45–59 years	35	23.0
	60–74 years	70	46.1
	75–90 years	35	23.0
	>90 years	12	7.9
Educational level	No formal education	64	42.1
	Primary school	53	34.9
	Junior high school	17	11.2
	Senior high school	6	3.9
	Higher education	12	7.9
Sex	Male	58	38.2
	Female	94	61.8
Knowledge	Good	67	44.1
	Sufficient	29	19.1
	Poor	56	36.8
Family support	Good	58	38.2
	Sufficient	56	36.8
	Poor	38	25.0
Social support	Good	44	28.9
	Sufficient	38	25.0
	Poor	70	46.1
Compliance	Compliant	67	44.1
	Non-compliant	85	55.9

Bivariate analysis showed that age, educational level, knowledge, family support, and social support were significantly associated with older adults' compliance with community-based elderly health post programs. Based on age group, compliance was more frequently observed among respondents aged 60–74 years and 75–90 years than among those aged 45–59 years and >90 years. Educational level also showed a significant association with compliance, where respondents with higher educational attainment tended to demonstrate better compliance with elderly health post attendance.

Table 2. Factors associated with older adults' compliance with community-based elderly health post programs

Variable	Category	Compliant		Non-compliant		Total		p-value
		n	%	n	%	n	%	
Age group	45–59 years	3	2.0	32	21.1	35	23.0	<0.001
	60–74 years	35	23.0	35	23.0	70	46.1	
	75–90 years	26	17.1	9	5.9	35	23.0	
	>90 years	3	2.0	9	5.9	12	7.9	
Educational level	No formal education	14	9.2	50	32.9	64	42.1	<0.001
	Primary school	29	19.1	24	15.8	53	34.9	
	Junior high school	6	3.9	11	7.2	17	11.2	
	Senior high school	6	3.9	0	0.0	6	3.9	
	Higher education	12	7.9	0	0.0	12	7.9	
Knowledge	Good	50	32.9	17	11.2	67	44.1	<0.001
	Sufficient	3	2.0	26	17.1	29	19.1	
	Poor	14	9.2	42	27.6	56	36.8	
Family support	Good	32	21.1	26	17.1	58	38.2	<0.001
	Sufficient	35	23.0	21	13.8	56	36.8	
	Poor	0	0.0	38	25.0	38	25.0	
Social support	Good	32	21.1	12	7.9	44	28.9	<0.001
	Sufficient	26	17.1	12	7.9	38	25.0	
	Poor	9	5.9	61	40.1	70	46.1	

Table 3. Multivariate analysis of determinants of older adults' compliance

Variable	B	SE	AOR	95% CI	p-value
Educational level	-1.551	0.821	0.212	0.042–1.060	0.059
Age	-3.743	1.619	0.024	0.001–0.566	0.021
Knowledge	3.389	1.341	29.641	2.140–410.493	0.011
Family support	1.629	0.990	5.098	0.732–35.495	0.100
Social support	1.949	0.836	7.020	1.364–36.146	0.020

Multivariate analysis using binary logistic regression was conducted to identify the dominant determinant of older adults' compliance with community-based elderly health post programs. The final model included educational level, age, knowledge, family support, and social support. After adjustment for other variables, knowledge emerged as the strongest determinant of compliance. Older adults with better knowledge had substantially higher odds of being compliant with elderly health post programs than those with lower knowledge.

In the final model, knowledge showed the highest adjusted odds ratio and remained statistically significant. This indicates that knowledge was the most important factor associated with compliance after considering other personal, family, and social variables. Social support also remained significantly associated with compliance, suggesting that encouragement and support from cadres, health workers, peers, and the surrounding community contributed to older adults' attendance and participation in elderly health post activities.

Age was also significantly associated with compliance in the multivariate model, indicating that compliance differed across age groups. In contrast, educational level and family support were not statistically significant after adjustment, although both variables showed associations in the bivariate analysis. This suggests that the effects of education and family support may be reduced when knowledge, age, and social support are included together in the model.

Overall, the multivariate findings indicate that knowledge was the dominant determinant of older adults' compliance with community-based elderly health post programs. These results suggest that older adults who have better understanding of the purpose, benefits, and services of elderly health posts are more likely to attend and comply with the program.

Discussion

This study found that older adults' compliance with community-based elderly health post programs was associated with personal, family, and social factors. The bivariate analysis showed that age, educational

level, knowledge, family support, and social support were significantly associated with compliance. However, after adjustment in the multivariate model, knowledge emerged as the dominant determinant, while social support and age also remained significantly associated with compliance. These findings indicate that compliance with elderly health post programs is not shaped by a single factor, but by the interaction between older adults' understanding, social environment, and age-related conditions.

The finding that more than half of older adults were non-compliant with elderly health post programs indicates that attendance remains a challenge in community-based health services. Elderly health posts are designed to provide preventive, promotive, and basic monitoring services for older adults (Kementerian Kesehatan Republik Indonesia, 2023). Low compliance may limit opportunities for early detection, health counselling, blood pressure monitoring, nutritional assessment, physical activity, and referral when health problems are identified (Margaretha et al., 2021; Sari et al., 2024). This finding is consistent with previous evidence showing that the utilization of elderly health posts and community-based services among older adults is influenced by individual, family, social, and service-related factors (Trisfayeti & Idris, 2023; Sari et al., 2024).

Knowledge was identified as the strongest determinant of compliance in this study. Older adults with better knowledge were more likely to comply with elderly health post programs than those with lower knowledge. Knowledge allows older adults to understand that elderly health posts are not only places for treatment, but also community-based facilities for health monitoring, disease prevention, health education, and social interaction (Kementerian Kesehatan Republik Indonesia, 2023; Margaretha et al., 2021). This result is in line with previous studies reporting that knowledge, attitudes, and health literacy are important factors in shaping older adults' health behaviour and use of preventive health services (Chesser et al., 2016; Sardareh et al., 2024; Linggi et al., 2024).

The dominance of knowledge in the multivariate model may also explain why educational level was not significant after adjustment. Education is generally related to the ability to understand health information, interpret health messages, and make decisions about service use (Chesser et al., 2016; Sardareh et al., 2024). However, older adults with limited formal education may still demonstrate good compliance if they receive clear health information, repeated counselling, and support from cadres or health workers (Wawomeo et al., 2022; Sari et al., 2024). Therefore, improving knowledge through simple, repeated, and culturally appropriate health education may be more practical than relying only on formal educational background.

Age was also significantly associated with compliance. Compliance appeared to differ across age groups, suggesting that age-related conditions may influence older adults' ability and willingness to attend elderly health post activities. Older adults may experience chronic illness, fatigue, reduced mobility, or dependence on others, which can affect their access to community-based health services (WHO, 2024; Zhou et al., 2025). This finding highlights the need for age-sensitive strategies in elderly health post programs, including flexible scheduling, family reminders, transportation support, and home-based follow-up for older adults with mobility limitations (Che & Cheung, 2024; Yu et al., 2024).

Family support was significantly associated with compliance in the bivariate analysis, although it was not significant in the final multivariate model. This finding does not mean that family support is unimportant. Family members often play a practical role in reminding older adults of the schedule, accompanying them to the health post, providing transportation, and encouraging them to follow health recommendations (Wawomeo et al., 2022; Mah et al., 2021). However, after adjustment with knowledge, age, and social support, the independent contribution of family support became weaker. This may indicate that family support works together with other factors, particularly knowledge and social encouragement, in shaping older adults' compliance.

Social support remained significantly associated with compliance in the multivariate model. Support from cadres, health workers, peers, and the surrounding community can

help older adults feel encouraged, valued, and socially connected (Valtorta et al., 2018; Kim et al., 2024). Previous evidence also shows that social relationships are related to healthcare utilization among older adults (Valtorta et al., 2018). In elderly health posts, cadres and health workers are important sources of information, reminders, encouragement, and emotional support (Sari et al., 2024; Wawomeo et al., 2022).

The findings of this study have important implications for community nursing and primary health care. Strategies to improve compliance should prioritize health education that increases older adults' knowledge about the purpose, benefits, and services of elderly health posts. Health education for older adults should use simple language, repeated explanations, visual materials, and direct counselling because these approaches may help improve understanding among older people with different educational backgrounds (Chesser et al., 2016; Sardareh et al., 2024). Cadres and health workers should also strengthen social support by actively reminding older adults, conducting follow-up for those who are absent, involving family members, and creating a welcoming environment at elderly health posts (Sari et al., 2024; Che & Cheung, 2024).

This study should be interpreted with caution because the cross-sectional design can only identify associations and cannot establish causal relationships. Compliance was measured at one point in time, so changes in attendance behaviour over time could not be observed. In addition, the study focused on selected determinants, including age, education, knowledge, family support, and social support, while other possible factors such as distance, transportation, economic status, health status, perceived service quality, and cadre performance were not fully examined. Future studies should consider longitudinal or mixed-method designs to explore how these factors influence older adults' compliance over time and to better understand barriers to regular attendance in community-based elderly health post programs.

Implication and limitation

The findings of this study indicate that improving older adults' knowledge should be prioritized to increase compliance with community-based elderly health post programs, as knowledge emerged as the dominant determinant. Nurses, cadres, and primary health care providers should provide simple and repeated education about the purpose, benefits, and services of elderly health posts, while strengthening social support from families, cadres, health workers, and peers. Programs should also consider age-related needs, such as reminders, transportation assistance, or home visits for older adults with mobility limitations. However, this study has limitations. The cross-sectional design cannot establish causal relationships, and compliance was measured only at one point in time. Other factors, such as distance, transportation, health status, service quality, and cadre performance, were not fully examined. Future studies should use longitudinal or mixed-method designs to explore broader determinants of older adults' compliance.

Relevance for Practice

The findings of this study highlight the importance of strengthening health education in community-based elderly health post programs. Nurses, cadres, and primary health care providers should provide simple, repeated, and easy-to-understand information about the purpose, benefits, and services of elderly health posts to improve older adults' knowledge and compliance. Social support from families, cadres, health workers, and peers should also be strengthened to encourage regular attendance. In practice, elderly health post programs should include active reminders, family involvement, and additional support for older adults with mobility limitations to improve participation and continuity of care.

Conclusion

This study found that older adults' compliance with community-based elderly health post programs was associated with age, educational level, knowledge, family support, and social support. Knowledge emerged as the dominant determinant of compliance, indicating that older adults with better understanding of the purpose, benefits, and services of elderly health posts were more likely to attend and comply with the program. Social support and age also remained

important factors related to compliance. These findings suggest that improving older adults' knowledge through regular health education, strengthening social support, and considering age-related needs are essential strategies to increase participation in community-based elderly health post programs.

Acknowledgment

The authors would like to express their sincere gratitude to all older adults who voluntarily participated in this study. The authors also extend their appreciation to the elderly health post cadres, local health workers, and community representatives who supported the data collection process. Special thanks are addressed to the academic supervisors and the nursing study program for their guidance, support, and constructive input throughout the completion of this research.

Author Contribution

Sri Astutik Andayani contributed to conceptualization, study supervision, methodology refinement, data interpretation, manuscript review, and critical revision of the manuscript. S. Tauriana contributed to study supervision, validation of the research content, data interpretation, manuscript review, and final editing. Agung Prasetyo Nugroho contributed to study design, data collection, data analysis, manuscript drafting, and preparation of the original manuscript. All authors read and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

Funding

This research received no external funding.

Declaration of Conflicting Interest

The authors declare no conflict of interest.

Declaration of Use of AI in Scientific Writing

The authors declare that generative AI and AI-assisted technologies were used to support language editing and grammatical refinement of the manuscript.

References

Abdillah, A. R., Falah, M., Saryomo, & Muksin, A. (2025). The relationship between family support and elderly participation in Posbindu activities in the Urug Health Center working area, Tasikmalaya. *Gaster, 23*(2), 127–138. https://doi.org/10.30787/gaster.v23i2.1925

BPS. (2024). *Statistik penduduk lanjut usia 2024*. Badan Pusat Statistik.

Che, R. P., & Cheung, M. C. (2024). Factors associated with the utilization of home and community-based services among older adults: A systematic review of the last decade. *Journal of Gerontological Social Work*. https://doi.org/10.1080/01634372.2024.2342455

Chesser, A. K., Keene Woods, N., Smothers, K., & Rogers, N. (2016). Health literacy and older adults: A systematic review. *Gerontology and Geriatric Medicine, 2*, 1–13. https://doi.org/10.1177/2333721416630492

Fernandez, D. M., Larson, J. L., & Zikmund-Fisher, B. J. (2016). Associations between health literacy and preventive health behaviors among older adults: Findings from the Health and Retirement Study. *BMC Public Health, 16*, 596. https://doi.org/10.1186/s12889-016-3267-7

Kementerian Kesehatan Republik Indonesia. (2023). *Integrasi layanan primer melalui Posyandu*. Kementerian Kesehatan Republik Indonesia.

Kim, I., An, H., Yun, S., & Park, H. Y. (2024). Effectiveness of community-based interventions for older adults living alone: A systematic review and meta-analysis. *Epidemiology and Health, 46*, e2024013. https://doi.org/10.4178/epih.e2024013

Linggi, B., Nurhanifah, D., Kamaruddin, M. I., Angreni, W. O. N., Suprapto, S., & Napolion, K. (2024). Knowledge and attitude can increase participation in elderly Posyandu visits. *Window of Health: Jurnal Kesehatan, 7*(4).

Lyu, X., & Fan, Y. (2024). The impact of home- and community-based services on the health of older adults: A meta-analysis. *SAGE Open, 14*(3). https://doi.org/10.1177/21582440241285674

Mah, J. C., Stevens, S. J., Keefe, J. M., Rockwood, K., & Andrew, M. K. (2021). Social factors influencing utilization of home care in community-dwelling older adults: A scoping review. *BMC Geriatrics, 21*, 145. https://doi.org/10.1186/s12877-021-02069-1

Margaretha, C., Sarjana, W., Suharto, S., & Jusup, I. (2021). Relationship between quality of life, depression, and participation in elderly integrated health service post among older adults. *Nurse Media Journal of Nursing, 11*(2), 144–153. https://doi.org/10.14710/nmjn.v11i2.33500

Qin, S., Cheng, Y., Zhang, H., & Ding, Y. (2023). Home/community-based medical and elderly care services utilization in China: A cross-sectional study from the middle-aged and elderly population. *Healthcare, 11*(17), 2431. https://doi.org/10.3390/healthcare11172431

Sardareh, M., Matlabi, H., Shafiee-Kandjani, A. R., Bahreini, R., Mohammaddokht, S., & Azami-Aghdash, S. (2024). Interventions for improving health literacy among older people: A systematic review. *BMC Geriatrics, 24*, 902. https://doi.org/10.1186/s12877-024-05522-z

Sari, C. W. M., Khoeriyah, V. N., & Lukman, M. (2024). Factors related to the utilization of integration health program (Posbindu) among older adults in Indonesia: A scoping review. *Clinical Interventions in Aging, 19*, 1361–1370. https://doi.org/10.2147/CIA.S462621

Trisfayeti, I. H., & Idris, H. (2023). Factors associated with utilization of Posyandu Lansia in Indonesia: An analysis of nationwide survey data. *Public Health and Preventive Medicine Archive, 10*(1). https://doi.org/10.53638/phpma.2022.v10.i1.p09

Valtorta, N. K., Moore, D. C., Barron, L., Stow, D., & Hanratty, B. (2018). Older adults' social relationships and health care utilization: A systematic review. *American Journal of Public Health, 108*(4), e1–e10. https://doi.org/10.2105/AJPH.2017.304256

Wawomeo, A., Kurnia, T. A., Sekunda, M. S., & Fredimento, A. (2022). The correlation between health beliefs and family support on the elderly's participation in the Elderly Health Service (Posyandu Lansia). *Public Health of Indonesia, 8*(2), 46–54. https://doi.org/10.36685/phi.v8i2.585

WHO. (2024). *Ageing and health*. World Health Organization.

Yu, Y., Zhang, J., Petrovic, M., Zhang, X., & Zhang, W. H. (2024). Utilization of home- and community-based services among older adults worldwide: A systematic review and meta-analysis. *International Journal of Nursing Studies, 155*, 104774. https://doi.org/10.1016/j.ijnurstu.2024.104774

Zhou, W., Zhang, X., & Lyu, X. (2025). Monitoring utilisation patterns of home- and community-based services for healthy ageing: A cross-sectional study. *BMC Geriatrics, 25*, 291. https://doi.org/10.1186/s12877-025-05918-5