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Socioeconomic Factors and The Use of Traditional Medicine in East Seram, Maluku

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Abstract

Although modern medicine continues to develop, traditional medicine is still widely used in various parts of Indonesia, including the natural resource-rich Maluku Province. Socioeconomic conditions are thought to influence people's dependence on traditional healing practices. This study aimed to analyze the relationship between socioeconomic status and the use of traditional medicine in East Seram District (ESD), Maluku Province. A cross-sectional household health survey was conducted in September-December 2023 among 253 respondents aged 18-65 years in eastern Seram Island. A quantitative-descriptive approach was used with structured interviews and multivariate logistic regression analysis. A total of 45.8% of respondents reported using traditional medicine, especially herbal concoctions. Individuals who do not pay for health insurance membership tend to use traditional medicine (aOR=2.87, 95% CI: 1.66-5.00, p<0.001). Similarly, respondents with low educational attainment (aOR=1.71, 95% CI: 1.00–2.92, p= 0.048) were more likely to use traditional medicine. These results suggest the importance of socioeconomic factors in the use of traditional medicine. Health promotion strategies need to be adapted to the local and cultural context to encourage rational and safe utilization of traditional medicine

Introduction

Despite the rapid advancements in modern medicine, traditional medicine remains widely practiced across Indonesia, particularly in Maluku Province, which is rich in natural resources. Traditional healing methods, often passed down through generations, continue to play a significant role in healthcare, especially in rural and remote areas where access to formal medical facilities is limited. The persistence of traditional medicine in these regions is influenced by socioeconomic conditions, cultural beliefs, and geographic barriers that shape healthcare-seeking behaviors. Some studies analyze the relationship between health service access factors and the determination of family health services in suburban communities in Java and outside Java. In areas outside Java Island, there are still quite a number of families who choose health services through traditional medicine, such as seeking treatment from traditional healers and the like. In this case, cultural factors still seem to have a strong influence, including customs and respected traditional leaders (Pakaya *et al*., 2024).

Maluku Province, including East Seram District (ESD), is characterized by archipelagic geography, which presents logistical challenges in healthcare delivery. East Seram Regency is one of 11 regencies in Maluku Province. Geographically, it is an archipelago and had a population of 137,972 in 2021. However, there are still areas that are classified as underdeveloped, and the poverty rate in these

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areas tends to be high. Based on data from the Central Statistics Agency for 2022, the number of poor people in the last five years has fluctuated, with the poverty rate in 2021 recorded at 26,410 (23.25%). Economic activity in East Seram Regency can be seen through the Gross Regional Domestic Product (GRDP), which is an indicator to measure economic growth in a period, based on both current prices and constant prices (Rumau *et al*., 2022).

Some findings from research in Seram Island related to the use of traditional medicine, most of the focus is on plant identification and knowledge, not on the analysis of socioeconomic factors. for example, research conducted in Besi and Hualoy villages on Seram Island, local people use no less than 45 species of plants from 28 families as traditional medicines. Then, research conducted in the sub-district of Seram Utara Barat found 13 species from 12 families; leaves & decoctions dominate the traditional medicine (La Saita *et al*., 2023; SUSIARTI, 2015). Studies indicate that socioeconomic status significantly affects the utilization of traditional medicine. Lower education levels, unspecialized occupations, a long history in the community, and low access to modern services correlated with stronger traditional medicinal knowledge and usage (Corroto *et al*., 2022). Additionally, cultural familiarity and trust in local healers contribute to the preference for traditional medicine over biomedical interventions (Nurhayati & Widowati, 2016).

Previous research has highlighted the ethnopharmacological significance of medicinal plants in Maluku, for example, a study in Namrole, South Buru, Maluku, found that closed community groups were three times as likely to use traditional medicine as modern medicine (Philothra *et al*., 2023). A study conducted in Selilau Village, Aru Islands Regency, identified 13 types of medicinal plants commonly used by the local population, with leaves being the most frequently utilized plant organ (Hastuti, 2023). Similarly, an ethnopharmacy study in North Maluku documented 26 species of medicinal plants, reinforcing the importance of traditional medicine in the region (Adrias *et al*., 2021).

However, while traditional medicine remains integral to healthcare in Maluku, disparities in education, income, and healthcare infrastructure influence its accessibility and effectiveness. Research suggests that individuals with lower educational attainment are more likely to rely on traditional healing methods due to limited health literacy and awareness of modern medical treatments (Rahayu *et al*., 2021). Furthermore, communities that were less accessible to roads or medical centers had higher medicinal plant knowledge (MPK) (Weckmüller *et al*., 2019). This study aims to analyze the relationship between socioeconomic status and the use of traditional medicine in ESD, Maluku Province. By examining the factors that drive reliance on traditional healing practices, this research seeks to provide insights into healthcare accessibility, cultural influences, and policy implications for improving healthcare services in rural Indonesia.

Methods

This study employed a cross-sectional household health survey conducted between September and December 2023 in Eastern Seram District, Maluku Province, Indonesia. The research utilized a quantitative-descriptive approach, incorporating structured interviews and multivariate logistic regression analysis to examine the relationship between socioeconomic status and the use of traditional medicine. The study targeted 253 respondents aged 18–65 years, selected through multistage random sampling to ensure representative coverage across different socioeconomic backgrounds. The inclusion criteria were: 1) Permanent residents of Eastern Seram District; 2) Traditional self-medication; 3) Willing to participate in the survey. Exclusion criteria included individuals with severe cognitive impairment or those who were unable to give informed consent. Data were collected using structured interviews, conducted by trained enumerators fluent in Bahasa Indonesia and local dialects.

The questionnaire was adapted from validated health surveys and included sections on: 1) Demographic characteristics (age, gender, education, occupation); 2) Socioeconomic status (household income, wealth index, employment stability); 3) Health care-seeking behavior (frequency of traditional medicine use, reasons

for preference); 4) Access to modern health care (distance to health facilities, availability of medical professionals). To ensure data reliability, enumerators underwent intensive training on survey administration, ethical considerations, and respondent engagement techniques. Measurement of variables in this study: The independent variables were grouped into two categories: individual characteristics and health contribution payment status, categorized as non-payment (free routine health services from the government) vs. payment. Individual variables include (1) age (productive: 15-64 years; non-productive: >64 years); (2) gender (male/female); (3) marital status (married/divorced and unmarried); (4) education level (low: junior high school, elementary school, and not in school; high: senior high school, college/graduate degree equivalent); (5) occupational status (formal occupation: jobs that are officially registered, regulated by labor laws, with social protection and clear employment contracts, e.g. teachers, civil servants, Indonesian National Army, police officers; and informal occupation: jobs that is not officially registered, without formal social protection, and often based on unwritten contract, e.g. street vendors, day laborers, domestic workers, freelancers); (6) household income (below and equal or above the Regional Minimum Wage (RMW) of IDR 2,812,827); and (7) Health contribution membership payment status: not paying (government subsidized insurance) and self-payment.

Meanwhile, the dependent variable: The primary outcome variable was history of traditional medicine use, defined as the extent to which individuals had a history of traditional medicine use. The history of traditional medicine use was captured using questions that included ever use, source of herbal medicine, visits to traditional healers, duration of traditional medicine visits, response to traditional medicine use, and duration of traditional medicine. Each "Yes" answer is worth one point, while "No" answers are worth zero. The median-based aggregate score was calculated for each respondent. The median value was 0. Hence, individuals who scored above 0 were classified as having a high history of traditional medicine use, while those who scored 0 were considered to have a low history of traditional medicine use. Data were analyzed using SPSS version 26. Descriptive statistics were used to summarize demographic and socioeconomic characteristics. Multivariate logistic regression analysis was performed to assess the association between socioeconomic status and traditional medicine use, adjusting for potential confounders. The study was approved by the Ethics Committee of Universitas Pattimura (No. 235/FK-KOM.ETIK/VI/2023). Written informed consent was obtained from all participants, ensuring confidentiality and voluntary participation.

Result and Discussion

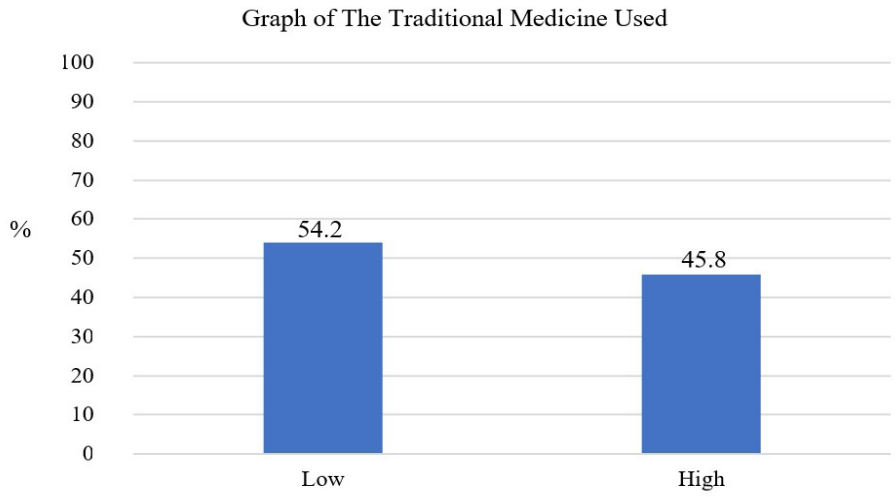

Figure 1. The Proportion of Traditional Medicine Used in East Seram

The results showed that among the 253 respondents who participated in this study, 137 (54.2%) showed a low level of traditional medicine use (Figure 1). The frequency distribution of respondents' characteristics is presented in Table 1. The majority of respondents were female (61.3%) and had a household income below the regional minimum wage of IDR 2,812,827 (77.9%). About 58.1% of respondents had low education, and 73.5% had informal jobs. 59.7% of respondents did not pay for health insurance membership. A higher rate of history of traditional medicine use was found among respondents who did not pay for health insurance, had low education, and were married. Table 2 summarizes the factors significantly associated with the history of traditional medicine use. Respondents with low education had greater odds of having a history of traditional medicine use compared to those with high education (aOR=1.71, 95% CI: 1.00–2.92, *p=0.048*). Similarly, individuals who did not pay for health insurance membership were significantly more likely to have a history of traditional medicine use (aOR=2.87, 95% CI: 1.66-5.00, *p <0.001*).

The analysis indicated that only 45.8% of respondents had a high history of traditional medicine use, while 54.2% had a low history of traditional medicine use. Respondents with low educational level, and non-payment of health insurance tended to show a high history of traditional medicine use. These findings provide important insights for policymakers and program implementers in designing broader and more equitable health education interventions. Increasing public awareness is a crucial aspect in supporting policy control efforts in choosing treatment, both at the

Table 1. Socioeconomic Characteristics Analyzed in this Study (n=253)

Variables	n	%	The Use of Traditional Medicine			
			High		Low	
			n	%	n	%
Individual Characteristic						
Gender						
Male	98	38.7	48	41.4	50	36.5
Female	155	61.3	68	58.6	87	63.5
Age						
Productive	243	96	110	94.8	133	97.1
Non-productive	10	4	6	5.2	4	2.9
Marital Status						
Married/divorced	234	92.5	110	94.8	124	90.5
Not married	19	19	6	5.2	13	9.5
Educational Level						
Low	147	58.1	60	51.7	87	63.5
High	106	41.9	56	48.3	50	36.5
Occupation						
Formal	38	15	17	14.7	21	15.3
Informal	215	85	99	85.3	116	84.7
Household Income						
< RMW	197	77.9	87	75.0	110	80.3
≥ RMW	56	22.1	29	25.0	27	19.7
Health Contribution Membership Payment Status						
Not paying	151	59.7	83	71.6	68	49.6
Self-payment	102	40.3	33	28.4	69	50.4

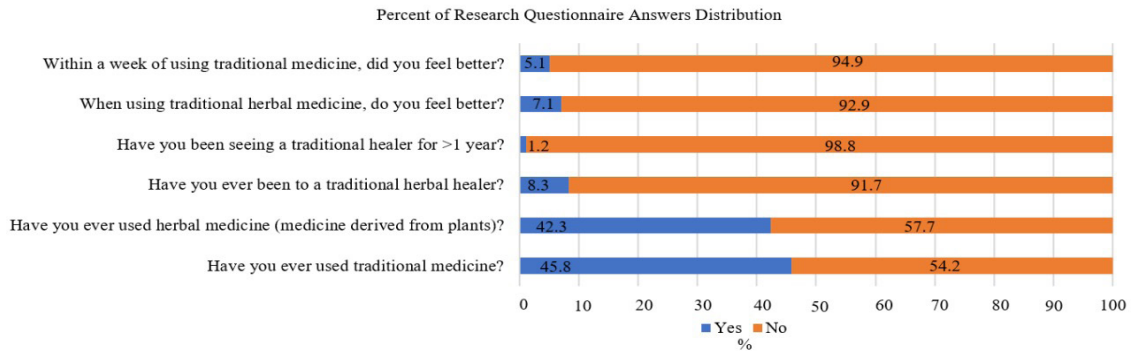

Figure 2. Characteristics of Traditional Medicine Use in East Seram

East Seram District level and more broadly in Maluku Province.

Our findings highlight the importance of formal education in shaping people's knowledge and awareness of health issues, including policies on treatment and selection of treatment use. Respondents with low educational level, such as junior high school, primary education, or no formal education at all, were significantly more likely to have a high history of traditional medicine compared to those who completed high school equivalent, or college. These results are in line with the research of (Niswatul & Haerawati, 2023), which showed a close relationship between education level and traditional health services.

Research in Ghana's North Gonja District also supports this, finding that pregnant women with less education tend to have behaviors that support the use of herbal remedies (Salifu *et al.*, 2024). The study from Bisha City, Saudi Arabia, also reinforced these findings, showing that education level showed a significant association with knowledge scores, with illiterate participants having the lowest median scores and university degree holders having the highest median scores ($p<0.001$) (Alfaifi *et al.*, 2023). Taken together, these results suggest that formal education not only increases individual awareness but also contributes to critical thinking and informed decision-making, which are key elements in the effective implementation of public health policies.

Respondents with non-pay status (covered by the government) showed a tendency to use traditional medicine more than those with pay status (not covered by the government). This finding is slightly different from the research conducted by the researcher. Some of the studies found discuss individuals who have health insurance, but not specifically those assisted by the government (due to assistance recipients). For example, research conducted by (Arsela *et al.*, 2021), namely that the existence of social health insurance resulted in a decrease in the utilization of traditional medicine in health facilities, even though health care facilities support the sustainability of traditional medicine services. However, research in Ghana (Kumah *et al.*, 2024) found that in the multivariate analysis, insurance ownership had no significant effect on the decision to use formal health services. After controlling for factors such as education, income, distance to the facility, and trust in the medical system, insurance was no longer a determinant (Wantoro, Sugiantoro, & Nguyen, 2025).

The results also showed that marital status was not significant to the use of traditional medicine. Bivariate analysis showed that age, marital status, and BMI were not significantly correlated with the use of traditional medicine (P = 0.082 for marital status). Multivariate logistic regression results also confirmed that marital status had no significant effect after controlling for other factors (Li *et al.*, 2020). A study conducted by (Febriyanti *et al.*, 2024), statistical analysis shows that there is no significant relationship between marital status and the use of traditional medicine. The

p-value obtained is 0.990, which indicates that the difference in the use of traditional medicine between marital status groups is not statistically significant. Interestingly, the results of a study conducted by (Laksono *et al*., 2024) showed that married individuals tend to use traditional medicine compared to those who are not married. This may be due to the community's perception that some diseases can only be cured with traditional medicine, and it can also be explained that married people get moral and financial support from their spouses, thus enabling them to seek health services, including traditional medicine services, when sick. For those who are unmarried, this may not be the case.

The findings of this study indicate that income does not affect the use of traditional medicine. This is different from the Research conducted in Malaysia and the Philippines, which found that the use of traditional, complementary, and alternative medicine (TCAM) was higher in low-income communities (Palileo-Villanueva *et al*., 2022). Likewise, a study conducted in Bangladesh, bivariate analysis showed that gender, education level, monthly income, occupation, and place of residence had a statistically significant association with the use of traditional medicine. A total of 22.9% of respondents who used traditional medicine stated that the method was effective in managing illness (Poli *et al*., 2025). However, in this study, there are some potential limitations, such as: 1) Self-reported data, which may introduce recall bias; 2) Geographic constraints, limiting access to remote respondents; 3) Cultural sensitivity, affecting willingness to disclose health-seeking behaviors.

Conclusion

This study reveals that traditional medicine use among adults in East Seram Regency, Maluku Province, is relatively low, with only 45.8% of respondents reporting its use, yet significantly higher among individuals with lower educational attainment (no school, elementary, or junior high school) and those covered by government-subsidized insurance, as indicated by adjusted odds ratios of 1.71 (95% CI: 1.00–2.92, p=0.048) and 2.87 (95% CI: 1.66–5.00, p<0.001), respectively, highlighting persistent sociodemographic disparities in health-seeking behavior. The findings underscore the importance of context-specific health promotion strategies to bridge gaps in health literacy and access, particularly in geographically isolated areas, while the study's strength lies in its robust modified cluster sampling design (30×15) that enhanced representativeness and navigated logistical challenges posed by the region's island geography. By incorporating multiple variables across individual, household, and health service levels, the research offers a comprehensive understanding of factors influencing traditional medicine use, though limitations include the exclusion of remote island populations due to adverse sea conditions, the inherent constraints of a cross-sectional design in establishing causality, and potential underreporting due to cultural sensitivity around health practices. Despite these constraints, the study provides valuable baseline evidence for policy and practice, calling for future research that expands to underrepresented island communities, employs longitudinal and qualitative methods to explore socio-cultural barriers and behavioral changes over time, and informs targeted interventions. Practically, these insights advocate for coordinated efforts by governments and health institutions to implement diversified health education campaigns, through schools, digital platforms, community health workers, and local leaders; to improve awareness, reduce stigma, and support the safe, effective, and regulated integration of traditional medicine into the national health system, including the development of evidence-based herbal medicines, standardized practitioner regulation, and the formalization of traditional health services across medical facilities.

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References

Adrias, C.R., Herwin, H., Jamaluddin, J., & Kosman, R., 2021. Ethnopharmacy Study of Plants

with Medicinal Properties in North Maluku Province. *Journal Microbiology Science*, 13(6), pp.24.

Alfaifi, J.A., Alqarni, S.A.M., Alqarni, A., Alqahtani, M.M., & Alshomrani. R.A., 2023. Parents' Knowledge, Attitude, and Practice Regarding Traditional Medicine on Their Children: A Community-Based Cross-Sectional Study in Bisha City, Saudi Arabia. *Cureus*, 15(8), pp.5–7.

Arsela, A., Rama Fadillah, D., Wulandari, S., Arianti, T., & Utami, T., 2021. Ownership of Health Insurance and Use of Traditional. *Pena Cendekia Insani*, 2(1), pp.114.

Corroto, F., Gamarra Torres, O.A., & Macía, M.J., 2022. Understanding the Influence of Socioeconomic Variables on Medicinal Plant Knowledge in the Peruvian Andes. *Plants*, 11(20).

Febriyanti, R.M., Saefullah, K., Susanti, R.D., & Lestari, K., 2024. Knowledge, Attitude, and Utilization of Traditional Medicine within the Plural Medical System in West Java, Indonesia. *BMC Complementary Medicine and Therapies*, 24(1), pp.64.

Hastuti, H., 2023. An Inventory of Medicinal Plants in Selilau Village, Aru Tengah District, Aru Islands Regency, Maluku Province. *Indigenous Biologi: Jurnal Pendidikan Dan Sains Biologi*, 6(3), pp.97–104.

Kumah, E., Asana, Y., Agyei, S.K., Kokuro, C., Ankomah, S.E., & Fusheini, A., 2024. Does Health Insurance Status Influence Healthcare-Seeking Behavior in Rural Communities? Evidence from Rural Ghana. *Health Policy Open*, 6.

La Saita, W., Kesaulya, H., & Jambormias, E., 2023. Identifikasi Tumbuhan Obat Tradisional di Kecamatan Seram Utara Barat Kabupaten Maluku Tengah. *Jurnal Agrosilvopasture-Tech*, 2(2), pp.501–507.

Laksono, A.D., Dwi Wulandari, R., Tumaji, T., Rukmini, R., Ipa, M., & Suharmiati, S., 2024. Traditional Health Services Utilization in Disadvantage Areas in Indonesia. *Int. J. Adv. Sci. Eng. Inf. Technol.*, 14(1).

Li, S., Odedina, S., Agwai, I., Ojengbede, O., Huo, D., & Olopade, O.I., 2020. Traditional Medicine Usage Among Adult Women in Ibadan, Nigeria: A Cross-Sectional Study. *BMC Complementary Medicine and Therapies*, 20(1), pp.93.

Niswatul, R., & Haerawati, I., 2023. Factors Associated with the Use of Traditional Health Services in Indonesia: A Secondary Analysis of the Indonesian Basic Health Research. *Makara Journal of Health Research*, 27(1), pp.36–39.

Nurhayati, N., & Widowati, L., 2016. The Use of Traditional Health Care Among Indonesian Families. *Health Science Journal of Indonesia*, 8(1), pp.30–35.

Pakaya, N., Hadjarati, H., Abdulkadir, W.S., Duhe, E.D.P., Kasmini, H.O.W., & Budiono, I., 2024. Health Service Seeking Behavior in Suburban Communities. *Kemas*, 20(2), pp.354–362.

Palileo-Villanueva, L.M., Palafox, B., Amit, A.M.L., Pepito, V.C.F., Ab-Majid, F., Ariffin, F., Balabanova, D., Isa, M.R., Mat-Nasir, N., My, M., Renedo, A., Seguin, M.L., Yusoff, K., Dans, A.L., & Mckee, M., 2022. Prevalence, Determinants and Outcomes of Traditional, Complementary and Alternative Medicine Use for Hypertension Among Low-Income Households in Malaysia and the Philippines. *BMC Complementary Medicine and Therapies*, 22(1).

Philothra, B.D., Alona, I., Situmorang, E., Limbardon, P., & Salsalina, V.G., 2023. Treatment-Seeking Behavior for Malaria Among Communities in Indonesia: A Systematic Review. *Narra J*, 3(3).

Poli, M.A., Hossain, M.J., Kholil, I., Yasmin, S., Bhowmick, B., & Kundu, L.R., 2025. Traditional Medicine Use and Associated Factors in Chronic Patients in Jamalpur, Bangladesh: A Cross-Sectional Study. *Frontiers in Public Health*, 13.

Rahayu, Y.Y.S., Araki, T., & Rosleine, D., 2021. Predictors of the Use of Traditional Medicines in the Universal Health Coverage system in Indonesia. *Global Journal of Health Science*, 1(1), pp.24.

Rumau, U.F., Hahury, H.D., Tutupoho, A., Louhenapessy, F.H., & Saptenno, F., 2022. An Analysis of Leading and Potential Sectors in The Development of Archipelagic Areas (A Case Study in East Seram Regency, Maluku). *Media Trend*, 17(2).

Salifu, A., Sumani, A.-M., & Ewuntomah, A.B., 2024. International Journal of Women's Health and Wellness Pregnancy and Plants: Investigating Factors Affecting Herbal Medicine Utilization among Expecting Mothers in North Gonja District. *Int J Womens Health Wellness*, 2024, pp.164.

Susiarti, S., 2015. Pengetahuan dan Pemanfaatan Tumbuhan Obat Masyarakat Lokal di Pulau Seram, Maluku. *Pros Sem Nas Masy Biodiv Indon*, 1(5), pp.1083-1087

Wantoro., Sugiantoro, H.A., & Nguyen, T.V., 2025. Changes Physical Activities of Daily

Living Elderly Individuals Involved in Interdisciplinary Care. *Jurnal Kesehatan Masyarakat (Kemas),* 20(3), pp.612-618.

Weckmüller, H., Barriocanal, C., Maneja, R., & Boada, M., 2019. Factors Affecting Traditional Medicinal Plant Knowledge of the Waorani, Ecuador. *Sustainability (Switzerland)*, 11(16).