



Factors Affecting the Implementation of the GERMAS Program: Analysis of Social Support and Community Empowerment in Langkat Regency

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Abstract

Indonesia still faces the double burden of both noncommunicable and communicable diseases. The government has launched a movement for a healthy living program (Gerakan Masyarakat Hidup Sehat, or GERMAS) to reduce morbidity, mortality, and healthcare costs caused by these two types of diseases, but its implementation remains challenging. This could be due to various factors, both internal and external. The aim of this study is to analyze the effect of social support and community empowerment on

the implementation of GERMAS. This cross-sectional study was conducted in Langkat Regency, one of the regencies in North Sumatra Province, Indonesia, where the burden of noncommunicable diseases has increased. The sample size was 96 respondents, selected using cluster random sampling from seven community health centers located in seven subdistricts in Langkat Regency. Data were collected using questionnaires and analyzed using multiple logistic regression. The findings showed that social support (Exp (B): 5.585 (2.080–14.997); $p < 0.001$) and community empowerment (Exp (B): 6.276 (2.342–16.819); $p < 0.001$) had an effect on the implementation of GERMAS. The most important factor affecting GERMAS implementation in Langkat Regency was community empowerment, in which poor community empowerment increased the tendency of the community to not properly implement GERMAS by 6.276 times. Local governments are expected to focus on strengthening community empowerment through health cadre training, continuous socialization, and the provision of health infrastructure support. Families must also actively support healthy living behaviors through strengthened communication and practicing healthy living together.

Keywords: Community empowerment, GERMAS, Social support

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Introduction

Global Burden of Disease data estimates that disability-adjusted life-years (DALYs) globally increased from 2.63 billion in 2010 to 2.88 billion in 2021 for all causes combined, with COVID-19 as the leading cause of DALYs (212.0 million), followed by ischemic heart disease (188.3 million), neonatal disorders (186.3 million), and stroke (160.4 million) (Ferrari et al., 2024). In 2020, the overall number of global deaths also increased by 10% compared to 2019 (from 57.0 million to 63.1 million deaths), and this trend continued in 2021, with an increase of 7.5% compared to 2020 (reaching 67.9 million deaths) (Naghavi et al., 2024). The ten leading causes of death, which account for 57% of total deaths worldwide, are dominated by noncommunicable diseases such as ischemic heart disease, stroke, chronic obstructive pulmonary disease, lung cancer, Alzheimer's disease, diabetes mellitus (DM), and kidney disease, among several types of communicable diseases such as COVID-19, lower respiratory infections, and tuberculosis (TB) (WHO, 2024). This indicates that the burden of noncommunicable and communicable diseases remains a significant health issue with serious consequences for mortality, morbidity, and socioeconomic development. Although the world is undergoing an “epidemiological transition” of increasing noncommunicable diseases, many low- and middle-income countries continue to bear the “double burden” of both types of diseases.

Indonesia is also part of the countries facing a double burden of noncommunicable and communicable diseases (Oktaria & Mahendradhata, 2022). The Indonesian Health Survey (Kemenkes RI, 2023) shows an increase or an insignificant decrease in the prevalence of several types of noncommunicable diseases compared to 2018 (Kemenkes RI, 2018), such as diabetes mellitus (from 2% to 2.2%), hypertension (from 8.36% to 8.6%), and heart disease (from 1.5% to 0.85%), as well as infectious diseases such as tuberculosis (from 0.42% to 0.3%), pneumonia (from 4% to 10.8%), and filariasis (from 0.8% to 1.5%). This high prevalence is mainly due to unhealthy lifestyles such as an unbalanced diet, smoking, and lack of physical activity; limited access to quality health services; poor hygiene and sanitation; and other social determinants of health (Oktaria & Mahendradhata, 2022). Aligned with this issue, the Indonesian government has launched a movement for a healthy living program (Gerakan Masyarakat Hidup Sehat/GERMAS) to promote a culture of healthy living in the community and encourage them to avoid unhealthy habits and behaviors to improve health quality and productivity, prevent various health problems, and reduce the financial burden of healthcare services due to both non-communicable and communicable diseases (Instruksi Presiden Republik Indonesia Nomor 1 Tahun 2017 Tentang Gerakan Masyarakat Hidup Sehat).

There are at least seven important steps in implementing GERMAS as an important part of developing healthy lifestyle habits, including engaging in physical activity, eating fruits and



vegetables, not smoking, not consuming alcoholic beverages, getting regular health checkups, ensuring environmental hygiene, and using sanitary toilets (Kemenkes RI, 2017). However, the implementation of GERMAS in Indonesia is not optimally effective. This can be seen from the high proportion of people who smoke (22.5%) and consume food (33.7%) and sweet drinks (47.5%), salty foods (30.4%), and fatty foods (37.4%) more than once a day; less consumption of fruits and vegetables (96.7%); lack of physical activity (37.4%); and not having regular health checks such as measuring blood pressure (35.8%), weighing body weight (36.8%), checking total cholesterol levels (67.2%), and measuring blood sugar levels (66.4%) (Kemenkes RI, 2023).

The challenges in the implementation of GERMAS are influenced by various factors, both internal and external. In order to optimize the implementation of GERMAS, individuals need to have the awareness, willingness, and ability to adopt healthy behaviors. Sitepu et al. (2024), in their study, found that knowledge and attitudes, as well as the role of health workers and health information, are among the factors associated with the implementation of GERMAS. Furthermore, the success of GERMAS also depends on external factors that improve knowledge and encourage individuals to adopt healthy lifestyles, such as the role of the family, community empowerment, and health infrastructure support. In other words, active participation from individuals, families, and communities, along with cross-sector collaboration, is essential for the implementation of GERMAS in Indonesia (Putra, 2018; Nasution et al., 2025; Sunandar et al., 2024).

North Sumatra Province is one of the Indonesian provinces that also faces health problems, especially an increase in the prevalence of noncommunicable diseases in 2023 (Dinkes Provinsi Sumatera Utara, 2023) compared to 2022 (Dinkes Provinsi Sumatera Utara, 2022), such as hypertension (from 3,217,618 to 3,287,526 cases) and diabetes mellitus (DM) (from 225,587 to 228,551 cases). The burden of noncommunicable diseases such as DM (from 18,865 to 19,793 cases) and hypertension (from 206,729 to 208,224 cases) was also reported to have increased in Langkat Regency, which is located in North Sumatra Province, in 2023 (Dinkes Provinsi Sumatera Utara, 2023) compared to 2022 (Dinkes Provinsi Sumatera Utara, 2022). Preliminary survey results conducted in the Langkat Regency show that this high prevalence is related to the majority of the community having an unhealthy lifestyle, such as frequent consumption of fatty foods (meat, coconut milk-based foods, and fried foods) as well as high-salt and high-carbohydrate foods, lack of vegetable and fruit consumption, irregular physical activity, and smoking while drinking coffee. Based on the background and preliminary survey results above, we are interested in analyzing social support and community empowerment in supporting the implementation of GERMAS in Langkat Regency and its effect on the GERMAS implementation.



Methods

This study is analytical quantitative research with a cross-sectional design conducted in Langkat Regency from April 2024 to July 2025. The sample size representing the population in this study was calculated using the Lemeshow et al. (1990) formula, resulting in a sample size of 96 respondents. Sampling was conducted using cluster random sampling from seven community health center working areas located in seven subdistricts, which represent 30% of the total subdistricts in Langkat Regency. The number of samples taken from each community health center was divided proportionally and selected randomly based on the inclusion and exclusion criteria defined. The inclusion criteria for respondents in this study were aged 15–70 years, residing in Langkat Regency, and willing to participate in the study, while the exclusion criteria were respondents who had difficulty communicating.

In this study, the dependent variable is the implementation of the GERMAS program, which is measured using a structured questionnaire to assess the seven steps of GERMAS implementation, including physical activity, fruit and vegetable consumption, smoking, alcohol consumption, regular health checkups, environmental hygiene, and use of sanitary toilets. The GERMAS implementation variable is further categorized into good and poor. Meanwhile, the independent variables that will be analyzed for their effect on the dependent variable are social support and community empowerment. The social support variable is measured using a structured questionnaire to assess the role of the family in encouraging individuals in implementing GERMAS, the dissemination of information about GERMAS from community leaders, religious leaders, cadres, and village midwives, as well as cross-sectoral cooperation, including health workers, stakeholders, and Posbindu cadres in supporting the implementation of GERMAS. The community empowerment variable is also measured using a questionnaire to assess the availability of community-based health empowerment, and health cadres, as well as their respective roles in supporting and encouraging the community to implement the GERMAS program. The social support and community empowerment variables are then categorized as good and poor.

After data collection, the data were analyzed using univariate analysis to describe the frequency distribution of respondents based on characteristics and bivariate analysis to determine the relationship between social support and community empowerment with the implementation of the GERMAS program using the chi-square test. Furthermore, multivariate analysis was performed using multiple logistic regression tests to determine which variables had the most effect on the implementation of the GERMAS program in Langkat Regency. The confidence level used in this study was 95%, or statistically significant if the p-value was less than 0.05.



Results

Based on data collected from 96 respondents, the following research results were obtained.

Table 1. Characteristics of Respondents

Characteristics	n = 96	%
Age		
<40 years	24	25.0
≥40 years	72	75.0
Gender		
Female	72	75.0
Male	24	25.0
Education		
Elementary school	27	28.1
Junior high school	15	15.6
Senior high school	45	46.9
University	9	9.4
Occupation		
Employed	38	39.6
Unemployed	58	60.4

The information in Table 1 shows that most respondents were aged 40 years and above (75%) and female (75%). Most respondents had completed high school (46.9%) and elementary school (28.1%), while a small number had completed junior high school (15.6%) and college (9.4%). Based on occupation, most respondents were unemployed (60.4%). This is due to the fact that most of the female respondents in this study were housewives who were unemployed.

Table 2. Results of the Chi-square Analysis

Variables	Implementation of GERMAS				Total		p
	Poor		Good		n=96	%	
	n	%	n	%			
Social support							
Poor	27	64.3	15	35.7	42	100	<0.001
Good	16	29.6	38	70.4	54	100	
Community empowerment							
Poor	30	63.8	17	36.2	47	100	<0.001
Good	13	26.5	36	73.5	49	100	

Table 2 shows the results of bivariate analysis using the chi-square test. The study findings indicate that of the 42 respondents who received poor social support, most also did not implement GERMAS properly (64.3%). In contrast, of the 54 respondents who received good social support,



the majority implemented GERMAS properly (70.4%). Meanwhile, of the 47 respondents who received poor community empowerment, most also did not implement GERMAS properly (63.8%), and conversely, of the 49 respondents who received the benefits of good community empowerment, most had implemented GERMAS properly (73.5%). Based on the analysis results, a p-value of <0.001 (p-value <0.05) was obtained, which means that social support and community empowerment are significantly associated with the implementation of GERMAS.

Table 3. Multiple Logistic Regression Analysis Results

Variables	B	p	Exp (B)	95% CI	
				Lower	Upper
Step 1 ^a					
Social support	1.720	<0.001	5.585	2.080	14.997
Community empowerment	1.837	<0.001	6.276	2.342	16.819
Constant	-1.633	<0.001	0.195		

Based on the results of multiple logistic regression analysis in Table 3, it shows that community empowerment is the most important factor affecting the implementation of the GERMAS program with an Exp (B) value of 6.276, which means that poor community empowerment increases the tendency of the community to not properly implement GERMAS by 6.276 times.

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Discussion

The findings of this study indicate that social support has a significant effect on the implementation of GERMAS in Langkat Regency, in which individuals who receive good social support tend to implement GERMAS properly and vice versa. According to House et al. (1988), social support is an interpersonal interaction process in which individuals provide assistance to others through emotional, informational, instrumental, or appreciative support. Social support in the implementation of GERMAS includes joint actions by families, community leaders, religious leaders, cadres and health workers, as well as cross-sectoral actors, such as stakeholders, government, private sector, institutions, and others to promote and facilitate a culture of healthy living.

Research conducted by Putra (2018) shows that families play a crucial role in implementing GERMAS. Families are a source of social support and an important component in shaping individual behavior to achieve a healthy society. The early implementation of GERMAS behaviors within the family can lead to healthy and active families, thereby reducing the risk of disease. Wardani et al. (2019) also found in their study that family support is one of the reinforcing elements



that significantly affects the formation and implementation of hygienic and healthy living behaviors within the household.

Aside from family, social support from health workers also plays a role in encouraging community participation in implementing GERMAS. This is supported by research conducted by Sitepu et al. (2024), which found that the role of health workers is significantly associated with the implementation of GERMAS. Health workers especially contribute by providing information to increase public knowledge about the benefits and steps of implementing GERMAS thus enabling them to understand the importance of adopting healthy behaviors and being able to do it themselves in their daily lives. Health workers are also one of the pillars of GERMAS success, acting as motivators, facilitators, counselors, and evaluators in the implementation of GERMAS in the community. A study conducted by Nursalamah et al. (2021) shows that one of the difficulties in implementing the GERMAS program is due to the limited number of health workers, which further emphasizes the importance of the role of health workers in the successful implementation of GERMAS.

Laksmi (2019) also stated in a study that information support has a significant role in the implementation of GERMAS. The information obtained by an individual is useful in improving knowledge, changing behavior, and influencing decision-making. Therefore, the delivery of information regarding the implementation of GERMAS must be carried out continuously and consistently in order to increase public understanding and awareness, as well as encourage public participation in implementing healthy living behaviors. The delivery of information should be made by policy makers and implementers of the GERMAS program, such as the Ministry of Health, health offices, community health centers, health workers, and health cadres. Appropriate and updated information resources are needed to provide adequate knowledge to the public regarding the benefits and healthy lifestyles. Information delivery can be conducted through several methods such as counseling, socialization, and educational campaigns using various media tailored to the target audience (Fatonah & Wibowo, 2019; Alzahra, 2023; Syabella et al., 2024). For example, in a study conducted by Budiwati et al. (2020) which aimed to increase junior high school students' knowledge, attitudes, and actions towards fruit and vegetable consumption, the researchers chose to deliver information through GERMAS socialization using lectures with PowerPoint, videos, and real objects as media and the results of the study showed that there was a significant increase in knowledge, attitudes, and actions after the information was delivered using this method.

The success of GERMAS implementation also depends on cross-sectoral support and stakeholders, such as the government and the private sector, particularly in strengthening advocacy and regional guidance in policy implementation, expanding information dissemination, improving



health infrastructure provision, increasing the availability, knowledge, and skills of human resources, and ensuring the availability of operational support through the provision of funds. GERMAS as a central program must be implemented by all regions and districts/cities, and its success is determined by the implementation of subordinate or related agencies, then disseminated to the wider community. With a multisectoral approach, each stakeholder at the central and regional levels, in accordance with their main duties and functions, can contribute directly or indirectly in supporting efforts to increase public awareness to implement GERMAS (Maulid et al., 2024). Sunandar et al. (2024) found in their research that communities having experienced good cross-sectoral support in promoting GERMAS from the private sector, such as organizing aerobic exercise activities in supermarket or department store parking lots equipped with infrastructure like instructors, equipment, and sound systems, also had good GERMAS implementation.

Based on the results of this study, it is also found that community empowerment is the most important factor affecting the implementation of GERMAS in Langkat Regency, in which poor community empowerment increases the tendency of the community to not properly implement GERMAS by 6.276 times. Community empowerment in the health sector is a series of activities aimed at achieving the community's ability to maintain and improve health, as well as increasing capacity and capability to deal with health problems to be able to utilize existing resources effectively. In the process, community empowerment always involves the active role of the community in raising awareness of health issues, increasing capacity through education and skills training activities, and utilizing that capacity in a sustained and organized manner to have a positive impact on reducing the risk of problems faced (Aisyah et al., 2023).

Several types of community empowerment in the implementation of GERMAS are already established in Langkat Regency, such as community-based health empowerment, health cadres, and selected family empowerment and welfare programs, which are selected, managed, and organized by the community and contribute to providing information about GERMAS and increasing the capacity of the community to implement GERMAS. Thus, the findings of this study also indicate that the role of community-based health empowerment, health cadres, and family empowerment and welfare program has an effect on increasing community understanding and participation in the implementation of GERMAS.

This is in line with the research by Nasution et al. (2025), which found that the success of GERMAS depends on community empowerment in improving the knowledge, awareness, and ability of individuals, families, and communities to actively participate in it. Community empowerment, manifested through initiatives such as community-based health empowerment, health cadres, and family empowerment and welfare, plays a crucial role in enhancing health



promotion efforts. This includes the implementation of Posbindu, coaching for Posyandu, community training and development, health advocacy, and fostering cross-sector collaboration. The central government, local governments, private institutions, community organizations, and other relevant stakeholders can empower communities using approaches tailored to the local context and specific aspects (demographic factors, socioeconomic conditions) to support the effective implementation of GERMAS, for example, through increasing the utilization of resources and potential based on local wisdom, integrating existing community empowerment programs, activities, and institutions with community needs, and providing infrastructure that is appropriate to local conditions. Nasution et al. (2025), in their research, also stated that the overall implementation of GERMAS was successful in areas that had policy support, appropriate educational strategies, and high community involvement. Conversely, this program still faces challenges in areas with limited resources and low community awareness. Therefore, local-based community empowerment strategies, inter-sectoral collaboration, and effective communication are key to optimizing GERMAS.

Lastly, this study has several limitations. Data collection using questionnaires certainly has the potential for bias. The study was conducted in various locations that may vary in sociodemographic characteristics, which could limit the ability to generalize the findings to the broader population. In addition, the cross-sectional design used is limited in explaining causal relationships, and this study also does not fully control for the influence of other factors.

Conclusion and Recommendation

Social support and community empowerment have a significant effect on the implementation of GERMAS. Local governments are expected to strengthen community empowerment by focusing on training health cadres and providing continuous socialization for individuals, families, and communities, as well as improving health infrastructure support, particularly the provision of facilities and infrastructure for Posbindu and Posyandu. Families should actively promote healthy lifestyles by enhancing communication and engaging in healthy practices together.



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