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Implementation of the Healthy City Program from the Perspective of Health Information Literacy and Community Empowerment

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ABSTRACT

This study aims to determine the level of collaboration and literacy, and the extent of community participation, in supporting the realization of a Healthy City. This study used a mixed-methods approach. The respondents in the study were residents of Batu City, East Java Province, Indonesia, grouped by sub-district and level of education. The research sample consists of 150 people, selected using stratified random sampling. Data mining used questionnaires, focus group discussions, observations, and documentation. Data analysis used statistical and interactive modeling, including data collection, condensation, data presentation, and conclusions. This article highlights that access to health information in Batu City is relatively good, but the evaluation and use of information still need improvement. The results also show that community participation is strong in implementation, but weak in planning, monitoring, and evaluation. The average literacy level and community participation in the Healthy City program remain in the medium range. Efforts are needed to educate, advocate, instill noble values, and improve Joint Movement's ability to realize and succeed in the Healthy City Program.

ARTICLE INFORMATION

Keywords:
community empowerment; healthy city; health information literacy; public participation

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INTRODUCTION

Health is essential to improve a country's quality of life, productivity, and competitiveness. Developing and implementing strategies to prevent, identify, and confront health threats is crucial in the information technology era (Kruahong et al., 2023). In the world of work, healthier people are usually more productive. This is because better health leads to greater efficiency, which directly increases employee productivity. This correlation suggests that the population's health status can significantly affect economic growth (Huang et al., 2022). Spending on public health is a moral obligation and a financial strategy. Healthier people are more likely to save and invest in education, increasing their productivity. It is a good feedback cycle in which better economic outcomes lead to better health, which in turn can fund more health (Kruk et al., 2018).

Health is not just the absence of disease; It also includes a person's ability to see their potential and participate fully in society. When people prioritize health, they tend to create an environment rich in opportunities and stability, which leads to better socio-economic development. Countries that invest in robust healthcare systems are more competitive globally. Healthy people can attract foreign investment, develop their skills, and be more adaptable to economic changes (Kruk et al., 2018). In short, a country's quality of life, productivity, and competitiveness are closely linked to health. The

country can improve its economic performance by investing in public health initiatives and tackling communicable and non-communicable diseases. It will also ensure that citizens live healthier and more productive lives. This holistic method strengthens society as a whole and individuals (de Leeuw, 2017).

Efforts to improve public health quality require health information literacy and adequate community participation. Health information literacy is the ability to access, understand, and use health information effectively to make informed health decisions. It plays a crucial role in promoting healthy behavior and reducing health disparities. Various factors, including education level, socio-economic status, and digital access, influence health literacy (Nutbeam, 2000). Studies indicate that individuals with higher health literacy are more likely to engage in preventive health behaviors (Parker et al., 2003). Community participation can be achieved by increasing capacity and awareness to maintain healthy living behaviors. It can be conducted through community empowerment efforts.

Community empowerment is the key to promoting health by providing people with the understanding to prioritize and make decisions, and to implement strategies for their health. It can also be used to reduce inequalities in health quality in the community (Kruahong et al., 2023). For more than four decades, community empowerment has become a paradigm that has guided the theory and practice of health promotion. Community empowerment is widely used as a framework for promoting health (Kruahong et al., 2023). One of the principles of implementing a healthy city is community involvement (Palutturi et al., 2021). Community participation is a key factor in the success of public health initiatives. The World Health Organization (WHO) emphasizes that empowering communities to take an active role in health decision-making improves overall health outcomes (WHO, 2016). Successful community participation initiatives include local health committees, participatory action research, and community health education programs (Laverack & Labonte, 2000).

To support the realization of a Healthy City, the Government's commitment is needed, including strengthening policies, providing budget support, and supporting health service facilities. In the collaborative governance approach, one aspect to consider in determining the success of collaboration implementation is the Government's commitment (Pugel et al., 2022). The Healthy Cities concept involves a holistic approach to urban health that integrates social determinants of health, sustainable urban planning, and community participation (Hancock & Duhl, 2015). Several case studies show that cities with strong governmental support and community involvement have achieved better health outcomes (Baum, 2008). Research on the strategies of the Palu City Health Office shows the important roles of cross-sector collaboration and citizen participation in achieving healthy city status, as well as in implementing disease prevention measures and strengthening urban health infrastructure (Umar et al., 2025).

The Healthy City program is one of the Government's policies to improve public health. However, in its implementation, the Government has not fully demonstrated its commitment, as evidenced by the uneven distribution of health care facilities (Chen, 2018). Due to several barriers, healthy City programs are ineffective in improving public health. One of the main problems is the lack of coordination among stakeholders and clarity about authority (Prihatni & Hastono, 2024; Green & Blue, 2017). Coordination between government and community sectors remains weak, further hampering the integrated implementation of Healthy City initiatives at the local level. This has resulted in uneven implementation of each urban health indicator (Fitry & Ulfah, 2025). Although not directly a Healthy City program, various evaluations of the implementation of the Healthy Indonesia Program with a Family Approach (PIS-PK) — a community-based health program closely related to the Healthy City system — show similar obstacles such as a lack of coordination, limited human resources, inadequate funds and facilities, and a lack of outreach to the community (Prihatni & Hastono, 2024)

Many people neglect their health for various reasons, which can result in severe consequences. The problem is widespread across various demographics and is influenced by psychological, financial, and social factors. High healthcare costs, long waiting times, and anxiety among some people when checking their health are reasons people are ignorant of health (Lai & Chang, 2022). In addition, the low quality of public health is also seen from the level of public health information literacy, which is still low, as shown by the lack of knowledge, understanding, and skills of the public in finding and understanding valid information, especially digital information, and limited access to health information due to differences in socio-economic, income, and education backgrounds

This research is crucial because it knows how collaboration between literacy and community participation can support program implementation and how efforts can be made to improve health information literacy and community participation. The Healthy Cities concept emphasizes active community involvement in identifying local urban health needs and in designing sustainable solutions. Strong engagement helps build program ownership and sustainability (WHO, 2016; Hancock & Duhl, 2015). Health literacy improves individuals' and communities' ability to understand health information, make informed health decisions, and engage in healthy behaviors independently. Health literacy increases individuals' control over their health (Andriani & Akbar, 2024). Limitations in coordination, resources, and socialization as found in various health program evaluations indicate that without strong empowerment and health literacy, it is difficult for communities to play an active role as partners in implementing health programs (co-creators) (Nia, 2022). Healthy Cities in Indonesia face implementation challenges, including low community participation, weak intersectoral coordination, and suboptimal evaluation (Fitry & Ulfah, 2025).

Previous relevant research has shown that barriers to health programs that require public participation are closely related to literacy and community empowerment. Therefore, focusing on community empowerment and health literacy is a crucial approach to strengthening the implementation of Healthy Cities in a sustainable, context-specific manner. The research aims to determine the levels of literacy and community participation in supporting the realization of a healthy city, and to increase literacy and community participation. The study uniquely integrates health information literacy and community participation to evaluate their combined impact on the effectiveness of Healthy City programs. Unlike previous studies that focus on one aspect, this research examines their interplay. While prior research discusses the importance of literacy and participation separately, this study examines how these factors jointly influence policy effectiveness and public health improvements.

METHOD

This study used the mixed method. Mixed methods research is an approach to inquiry that combines qualitative and quantitative methods of data collection, analysis, and interpretation in a single study (Creswell & Clark, 2017; Palinkas et al., 2011; Sugiyono, 2021). Initially, the researchers used a quantitative approach to determine the relationship and influence of health literacy and community empowerment on the implementation of the Healthy City program. Then, it continued with qualitative methods to obtain a more comprehensive picture of the Healthy City program's implementation, grounded in perspectives on health literacy and community participation. This study aims to determine the level of collaboration and literacy, and the extent of community participation, in supporting the realization of a Healthy City. Health information literacy is measured using three indicators: Information Access (an individual's ability to identify health information needs and find valid sources of information), Information Evaluation (the ability to assess the quality and credibility of information), and Information Use (the ability to use information effectively and ethically). Meanwhile, community participation was measured using four indicators: Planning (Participation in

formulating program plans and strategies), Implementation (Active involvement in running the program), Monitoring (The role of the community in monitoring program implementation), and Evaluation (Community feedback and analysis of program success). The population in this study is the people of Batu City, which consists of 3 sub-districts. The respondents in this study numbered 150, comprising 68 men and 82 women from 3 sub-districts: Junrejo District (55), Bumiaji (45), and Batu (50). Overall, respondents can be divided into three levels of education: primary (6%), secondary (74%), and higher (20%).

Data collection in this study used several techniques. Data collection techniques are the methods researchers use to gather data. These methods refer to something abstract, intangible, but demonstrable (Creswell, 2014). To obtain valid and relevant data, the researchers used questionnaires, interviews, observations, focus group discussions, and documentation. Observation is the process of collecting data by conducting direct or indirect research on the research object and systematically recording the phenomena being studied. Interviews are a method of collecting data by directly questioning individuals deemed competent to provide information on all matters related to the research. Interviews in this study were conducted with informants deemed to have key information about both the process and results of the Healthy City program implementation. Documentation is a data collection technique that involves reviewing notes or copying data from documents at the research location, particularly those related to the object being studied. The documentation for this research consists of activity reports from related agencies detailing the process and results of the Healthy City program.

The researcher's data analysis is quantitative (descriptive and inferential methods with path analysis) and is complemented by interactive data analysis, which aims to describe in a systematic, factual, and accurate way. According to Miles et al. (2014), interactive data analysis consists of four activity flows: data collection, data condensation, data presentation, and conclusion. Data collection is a crucial stage in any research. It is an activity undertaken by researchers to obtain valid data. This data collection process involves interviews with relevant parties, field observations, and documentation. During the data collection phase, researchers undertake several steps to obtain valid data. We conduct observations and interviews with several sources related to the research topic. In this study, the researchers encountered difficulties gathering information because many parties were unwilling to be interviewed or to provide data or documents.

The second step is Data Condensation. The researchers compiled field data into a comprehensive report that documented the process of selecting, focusing, simplifying, summarizing, and transforming data from notes, interviews, documents, and other empirical sources. The data and reports are then selected, centralized, simplified, and summarized in tables and figures. At this stage, after the data has been sorted and simplified, unnecessary data is sorted to facilitate display and presentation, and preliminary conclusions can be drawn.

The third is Data Display. Data display is intended to make it easier for researchers to see the overall picture or specific parts of the research data. This involves organizing the data into a specific format for clarity. The researchers then sort and organize the data into similar categories for presentation, aligning them with the problem at hand, including preliminary conclusions drawn during data condensation. The last is Drawing and Verifying Conclusions. In qualitative research, data verification is continuous throughout the research process. From the moment they enter the field and throughout the data collection process, researchers strive to analyze and seek meaning in the collected data, namely by searching for patterns, themes, similar relationships, explanations, and cause-and-effect flows, which are then expressed in the form of conclusions. Conclusions also serve as proof of the analytical process. This proof can be as brief as an idea that passes through the mind for a few seconds while writing, it can also come from memories of field notes, it can be complete and detailed,

with long arguments and several reviews developed again, or with a more extensive effort to find various types of information and then transcribe the findings into other data sets.

RESULTS AND DISCUSSION

The Health Information Literacy variable (X1) is measured using three indicators, namely Information Access (X1.1), which is the ability to identify information needs and find information locations; Information Evaluation (X1.2), which is the ability to critically and competently assess information and organize information as needed, and the Information Use indicator (X1.3), which is the ability to use and communicate and understand the ethics of using information. The frequency distribution of responses for each statement item on each indicator is presented in Table 1.

Table 1. The frequency distribution of the response

Indicator	Item	Value	Average
X1.1	X1.1.1	4.53	4.22
	X1.1.2	4.31	
	X1.1.3	3.98	
	X1.1.4	4.17	
	X1.1.5	4.23	
	x1.1.6	4.09	
X1.2	X1.2.1	3.95	3,64
	X1.2.2	3.27	
	X1.2.3	4.03	
	X1.2.4	4.03	
	X1.2.5	3.35	
	X1.2.6	3.51	
	X1.2.7	3.28	
X1.3	X1.3.1	3.11	3,2
	X1.3.2	3.18	
	X1.3.3	3.92	
	X1.3.4	3.00	
	X1.3.5	3.04	
	X1.3.6	3.15	
X1	Variable Average	3,42	

Table 1 shows that the public health information literacy level in Batu City, as measured by the information access indicator, is in the high category. Meanwhile, in the indicator, the ability to evaluate and use information is still in the sufficient category. Overall, the public health information literacy level in Batu City is in the medium category. It means that In general, a medium level of health information literacy indicates that the community: Can access health information from various sources (health centers, media, the internet, community health workers, etc., Can understand basic health information, such as health promotion messages, recommendations for clean and healthy living behaviors, or health service information, Is not yet fully able to evaluate, assess the reliability, and consistently apply health information in daily decision-making. In other words, the community is not yet at the critical literacy stage, but has passed the basic literacy stage. This aligns with the Nutbeam (2000) framework, which divides health literacy into three levels: Functional health literacy (basic), Interactive health literacy (medium), and Critical health literacy (high). At the medium level, the

community generally has interactive literacy, meaning they can engage with health information but are not yet critical of the social context and health policies.

Table 2. The results of testing the structural model of direct correlation

Hypothesis	Direct Influence	Path Coefficient	Standard Error	Critical Ratio	Description
H1	Health Information Literacy (X1) -> Implementation of the Healthy City Program (Y1)	0.094	0.046	2.02*	Significant

Hypothesis testing with the GSCA approach yields a significant path coefficient for the influence of Health Information Literacy (X1) on the Implementation of the Healthy City Program (Y1): 0.094 and a CR value of 2.02. Because CR> 1.96 (critical value of the Z table at alpha 5%), there is sufficient empirical evidence to accept H1, which states that Health Information Literacy (X1) has a significant effect on the Implementation of the Healthy City Program (Y1). A positive coefficient indicates that the higher the Health Information Literacy (X1), the higher the Implementation of the Healthy City Program (Y1).

Table 3. Results of the Indirect Effect Test

Correlation	Coefficient	Description	Conclusion
Health Information Literacy (X1) -> Community Participation (X2) -> Implementation of the Healthy City Program (Y1)	0,084	Health Information Literacy (X1) -> Community Participation (X2) (Sig.), Community Participation (X2) -> Implementation of the Healthy City Program (Y1) (Sig.)	Significant

Hypothesis testing with the GSCA approach yields a significant path coefficient of 0.084 for the influence of Health Information Literacy (X1) on the Implementation of the Healthy City Program (Y1) through Community Participation (X2). Because both direct influences that form it are significant, there is sufficient empirical evidence to accept H1, which states that Health Information Literacy (X1) influences the Implementation of the Healthy City Program (Y1) through Community Participation (X2). A positive coefficient indicates that the higher the Health Information Literacy (X1), the higher the Implementation of the Healthy City Program (Y1) through increased Community Participation (X2).

In Indonesia, one of the efforts to improve public health in 2005 was the issuance of a regulation to implement the Healthy Cities initiative. According to the Joint Regulation of the Minister of Home Affairs and the Minister of Health Number: 34 of 2005 Number: 1138/Menkes/PB/VIII/2005 concerning the Implementation of Healthy Regencies/Cities. The purpose of the Healthy Regency/City Program is to achieve clean, comfortable, safe, and healthy Regency/City conditions for its citizens to live and work in by implementing health programs and other sectors, thereby improving the community's facilities, productivity, and economy. In line with the Joint Regulation of the Minister of Home Affairs and the Minister of Health, the Batu City government is committed to realizing a clean, comfortable, safe, and healthy Batu City by involving all government organizations and all components of society. In the regulation, it is stated that to realize a healthy district/city, following the Regional Autonomy Law, city and district governments must organize programs that involve the active role of the community and the private sector as well as the government and local governments in a directed,

coordinated, integrated and sustainable manner to improve the quality of the physical and social environment, changes in healthy community behavior based on the programs of each region. In accordance with the ministerial regulation, the Batu City government issued Batu Mayor's Decree No. 188.45/313/KEP/422.012/2015 concerning the formation of a Healthy City organizer coaching team.

Health information literacy is an important ability that enables individuals to recognize the need for health information, identify appropriate sources, assess its quality, apply it, analyze it, understand it, and use it to make informed health decisions (Shipman et al., 2009). Health information literacy is important in promoting public health, especially in the information-rich digital era. Eriksson-Backa et al. (2012) showed that education level, technology skills, and access to information resources influence information literacy. Based on the research results, the Indonesian people have a life expectancy of 71.48. However, research indicates that 62 is the age at which people can remain productive. At the same time, the rest is spent with a period of disability caused by non-communicable diseases (NCDs) due to an unhealthy lifestyle. The pain rate in Batu City reached 14.04% or around 31,126 thousand residents. This shows that many people in Batu still lack the awareness to maintain a healthy lifestyle.

Many factors affect a person's health literacy, including knowledge of medical terminology, understanding how the health care system works, ability to communicate with health care providers, and ability to find health information that may require computer skills (Eriksson-Backa et al., 2012). Success in improving understanding of health information is influenced by social and political factors such as public trust, validity, accountability, the quality of public services, and the prevention of public non-compliance. Participation and transparency will help restore public trust in the Government. Participatory development involves several stages that must be navigated by all parties involved. In addition, several challenges faced in optimizing capacity building and community literacy abilities are also influenced by the commitment not being optimal due to limited resources, there is still a lack of political will from the leaders, and the development planning in the health sector is still not good (Lapão et al., 2023). In the first part, the measurement model of the Community Participation variable (X2) is presented. This variable can be measured by four indicators, namely Planning (X2.1), Implementation (X2.2), Supervision (X2.3), and Evaluation (X2.4). The measurement model of the Community Participation variable (X2) is presented in Table 4.

Table 4. Model for Measuring Community Participation Variables (X2)

Indicator	Loading Factor	P-value	Conclusion
Planning (X2.1)	0.894	0.000	Significant
Implementation (X2.2)	0.931	0.000	Significant
Surveillance (X2.3)	0.909	0.000	Significant
Evaluation (X2.4)	0.883	0.000	Significant
AVE	0.818		
Composite Reliability	0.947		
Alpha Cronbach	0.926		

The indicators of the Community Participation variable (X2), namely Planning (X2.1), Implementation (X2.2), Supervision (X2.3), and Evaluation (X2.4), were declared significant as measures of the variable of Community Participation (X2). The four indicators have positive loading factors and p-values < 0.05 (significant). This means these indicators are significant as a measure of the Community Participation (X2) variable. Because the loading factor coefficient is positive, it indicates that the high and low level of Community Participation (X2) is determined by the high and low levels of Planning (X2.1), Implementation (X2.2), Supervision (X2.3), and Evaluation (X2.4). The

Implementation Indicator (X2.2) is the most substantial measure of the Community Participation variable (X2) because it has the highest loading factor coefficient. This means that the Community Participation variable (X2) is assessed at the high level of Implementation (X2.2). In addition, the Community Participation variable (X2) had an AVE of 0.818, a composite reliability of 0.947, and a Cronbach's alpha of 0.926, meeting the measurement requirements. A descriptive analysis of the Community Participation variable (X2) measured by four indicators, namely Planning (X2.1), Implementation (X2.2), Supervision (X2.3), and Evaluation (X2.4), is presented in Table 5.

Table 5. Description of Community Participation Variables (X2)

Indicator	Item	Average	
		Item	Indicator
X2.1	X2.1.1	4.21	3.98
	X2.1.2	3.74	
X2.2	X2.2.1	4.16	4.01
	X2.2.2	3.91	
	X2.2.3	3.61	
	X2.2.4	4.04	
	X2.2.5	4.34	
X2.3	X2.3.1	3.31	3,43
	X2.3.2	3.55	
X2.4	X2.4.1	3.17	3,20
	X2.4.2	3.19	
	X2.4.3	3.23	
X2			3,31

Based on Table 5, the average variable for Community Participation (X2) was 3.31, which falls within the medium category. Of the four measured indicators, the Implementation indicator (X2.2) has the highest average value of 4.01 (good). Meanwhile, the Evaluation indicator has the lowest average value of 3.20, which is in the moderate/sufficient category.

Table 6. The results of testing the structural model of direct correlation

Hypothesis	Direct Influence	Path Coefficient	Standard Error	Critical Ratio	Description
H2	Community Participation (X1) -> Implementation of the Healthy City Program (Y2)	0.149	0.063	2.38*	Significant

Hypothesis testing with the GSCA approach yields a path coefficient for the influence of Community Participation (X2) on the Implementation of the Healthy City Program (Y1) that is significant (0.149, CR = 2.38). Since CR>1.96 (critical value of the Z table at alpha 5%), there is sufficient empirical evidence to accept H1, which states that Community Participation (X2) has a significant effect on the Implementation of the Healthy City Program (Y1). A positive coefficient indicates that the better the Community Participation (Y1), the better the Implementation of the Healthy City Program (Y1). According to Harris and Moore (2024), community participation is one of the key factors in achieving a healthy city.

Several things affect community participation in a program. Community participation is people taking action. Three main factors support community participation: willingness, ability, and the opportunity to participate (Khair et al., 2020). Factors that hinder community participation include individual factors, such as dependence. The community's dependence on the Government in development can hinder community participation. This dependence makes people less willing to take the initiative to participate in development. Community participation is essential for the success of development (Wen et al., 2024). This is because they become the main center of attention, the actors, and the ultimate development goal. Community participation in health programs has long been recognized as a key to success. According to Khair et al. (2020), participation is influenced by the community's willingness, ability, and opportunities. Wen et al. (2024) emphasize that community participation provides a greater sense of ownership of the program, thereby encouraging sustainability.

Institutionally, the Healthy City approach is implemented by establishing a Healthy Regency/City Forum using existing organizations. The forum's membership consists of representatives from the community, Government, private sector, community leaders, universities, the mass media, and other groups that can represent the interests of the entire community. The actors involved in community empowerment in realizing a Healthy City are as follows:

The establishment of the Healthy Regency/City Advisory Team in Batu City is based on Batu Mayoral Decree No. 188.45/313/KEP/422.012/2015, which establishes the Healthy City Advisory Team. This Advisory Team is chaired by the Head of the Batu City Development Planning Agency (BAPPEDA). This Advisory Team's function is to ensure that development programs implemented by each Regional Government Agency (SKPD) truly represent "exit strategies" for addressing community issues. In this regard, this Team is tasked with identifying community issues with the assistance of the Healthy City/Sub-District Forum (FKKS), identifying development programs within each SKPD, determining the "entry points" for the KKS, and assessing each activity.

The Healthy City Forum plays a role in determining the direction, priorities, and development planning for its region, integrating various aspects to create a clean, comfortable, safe, and healthy environment for its residents. The Healthy City Forum operates at the city/regency level. In Batu City, the Healthy City Forum was established by Batu Mayoral Decree No. 188.45/314/KEP/422.012/2015, concerning the Batu City Healthy City Forum for the 2016-2018 period, and Batu City Healthy City Forum Decree No. 001/SK.FKBS/2016 concerning the appointment of the daily acting Chair of the Batu City Healthy City Forum. The forum serves as a mediator between the local government/Supervisory Team and the wider community and acts as a facilitator in identifying developments within the community. The forum holds regular meetings with the community, provides outreach on indicators established by the Supervisory Team, and develops forum indicators.

The function of the Healthy Sub-district Communication Forum is Establishing and fostering village/ward working groups, Formulating proposals, priorities, targets, planning, and evaluating the development of healthy villages/ward, Seeking and channeling funding sources that cannot be covered by the Forum and Working Group, such as from NGOs, the private sector, and the Government, and Coordinating the implementation of activities to be carried out by the community, Government, and non-governmental elements so that they can be implemented effectively and efficiently.

Working groups are forums for rural/sub-district communities engaged in economic, social, cultural, and health-related endeavors. They are intended to provide a forum for communities to voice their aspirations and participate in agreed-upon activities. The Village/Sub-district Working Group functions to formulate, implement, and monitor Healthy Village/Sub-district activities and mobilize community potential. Proposals for Healthy Village/Sub-district Working Group activities are forwarded to the Healthy Village/Sub-district Communication Forum and then to the District

Development Planning Agency (Bappeda) through the local Sub-district Head to be incorporated into the Healthy Village/Sub-district proposal package. Proposals beyond these can be distributed to relevant sectors and NGOs.

The primary resource in policy implementation is staff or employees (street-level bureaucrats). Frequent failures in policy implementation are caused, among other things, by inadequate staffing. Simply increasing the number of staff and implementers is not enough to resolve policy implementation issues; sufficient staff with the necessary skills and abilities are required. Based on the research results, implementing the Healthy City Program in Batu City faces several significant obstacles. First is coordination between stakeholders. One of the biggest challenges is coordination between governments, the private sector, and the community. Despite working collaboratively, disagreements and ineffective communication are expected. This aligns with research findings indicating that government agencies involved in Healthy City initiatives often do not know what to do. This lack of clarity can lead to fragmented and ineffective work (Bai et al., 2022; Green & Blue, 2017). The second is Limited Resources. Limited resources, both budget and human resources, are obstacles to implementing this program. This impacts the ability to carry out various health initiatives optimally. Often, Healthy City initiatives lack sufficient funding. Programs rely on local government budgets, which may not prioritize health initiatives amid competition. From a human resources perspective, there is a shortage of staff capable of implementing and managing the Healthy City program effectively. This workforce shortage can hinder the development and implementation of health interventions at the community level (Lee & Nakamura, 2021)

The third is Community Awareness and Participation. Public participation and awareness are crucial to realizing a healthy city, as it is based not only on government policies and infrastructure but also on citizens' behavior, commitment, and active involvement. According to observation, there is a need to increase awareness and community participation in this program. Many residents do not fully understand the importance of protecting the environment and their health. It is essential to raise public awareness about health issues and the benefits of the Healthy Cities program (Kruahong et al., 2023). Without effective communication strategies, people may not know the resources and programs to improve their health outcomes (Palutturi et al., 2017). The success of a Healthy City is not only measured by the Swasti Saba award, but also by tangible changes in the environment and community behavior. The Government plays a role as a driver of cross-sectoral policies. Resources support the sustainability of cross-level activities. The community is the primary actor in realizing a healthy environment. Healthy cities position communities not merely as recipients of programs, but as key actors in change. Public awareness of the importance of a clean environment, healthy lifestyles, and social solidarity is the foundation for creating a sustainable, healthy city. Without active citizen participation, healthy city programs risk becoming merely symbolic and lacking real impact. This participation can take the form of participation in discussion forums, environmental cleaning activities, integrated health posts (posyandu), waste banks, and health communities.

The last is Infrastructure problems. The lack of infrastructure, such as health facilities and green spaces, is also an obstacle to creating a healthy and comfortable environment. Many health programs fail to address health equity, limiting vulnerable populations' access to essential health services. This neglect can exacerbate health disparities in urban areas (Bai et al., 2022). In summary, while the Healthy Cities Program has the potential to benefit urban residents, its implementation is hampered by governance issues, resource constraints, limited public engagement, and challenges related to health equity. Overcoming these obstacles is critical to effectively realizing program objectives. Wijaya et al. (2021) showed that, in the implementation of Healthy City indicators at the city government level, there is variation in indicator achievement across sub-districts. This indicates the need to

strengthen local capacity, monitoring systems, and community engagement to ensure more equitable implementation of Healthy City indicators and impact community well-being.

In general, the implementation of community empowerment by the Batu City Government and all involved actors has involved various efforts and stages, making it comprehensive. The Healthy City Team at the sub-district and village levels believes that this community empowerment will improve community welfare. Community empowerment, as defined here, is an effort to actualize the community's potential, in accordance with the concept of "empowerment" as explained by Lee (2016), which emphasizes the importance of self-reliant local communities as self-organizing systems. The synergy between government policies and community responses largely determines the success of a healthy city. The Government acts as a facilitator and regulator, while the community serves as both an implementer and a social monitor. This synergy creates participatory, inclusive, healthy city governance. There are several benefits of community involvement in the planning, implementation, and evaluation of healthy city programs. First, it helps the Government understand the community's real needs. Second, it increases a sense of ownership of the program. Finally, it encourages compliance and consistency in adopting clean, healthy living behaviors.

Sulistyani (2004) stated that the goal of empowerment is to shape individuals and communities into independent communities. This independence encompasses thinking, acting, and controlling one's actions. Therefore, community empowerment efforts are the ability and freedom to make choices to determine or improve their lives, thereby contributing to independence in cognitive, conative, psychomotor, and affective aspects, as well as achieving desired community goals. Therefore, the Healthy City program is implemented at the intellectual capacity-building stage, as it is at this stage that communities develop their own skills, thereby fostering initiatives that lead to independence. According to Suharto (2017), the community empowerment approach has been implemented through Enabling, which creates an atmosphere or climate that allows the community's potential to develop optimally. This allows communities to actively participate in the implementation of Healthy Cities, including by becoming environmental cadres or joining Village/Sub-district Working Groups. Without public participation and awareness, it is difficult to achieve healthy cities in a substantive way. Conversely, with an aware, active, and empowered population, healthy cities become not just a program, but a shared culture.

Meanwhile, according to the theory, community empowerment can be implemented in stages through three phases (Prijono & Pranarka, 1996). First, the initiation phase, where all empowerment processes begin with the Government and are intended for the community. The community merely implements the Government's plans and desires, remaining dependent on it. Second, the participatory phase, where the empowerment process originates from the Government, with the community, by the community, and the Government. In this phase, the community is actively involved in development activities toward independence. Third, the emancipatory phase, where the empowerment process originates from the people and for the people, supported by the Government and the community. Public awareness serves as social capital, strengthening the sustainability of healthy cities. Public awareness reflects the level of knowledge, attitudes, and concern for environmental and social health. High awareness will encourage independent changes in healthy behavior, social control over practices detrimental to public health, and the strengthening of the value of cooperation in maintaining the quality of urban life.

In the emancipatory phase, the community has discovered its own strengths and can then actualize itself. In the initiation phase, the Government plays a greater role in program implementation. At this stage, the Government is responsible for creating regulations, formulating institutional frameworks, and providing various facilities, funds, and other resources for field programs. Regency/city governments develop the framework and objectives for program

implementation without community involvement. Furthermore, during the formation of institutional organizations at the sub-district, village, or urban village level, the Government begins to involve the community. This stage is often referred to as participatory, meaning the community is actively involved in development activities toward independence, although the Government remains largely responsible for the implementation.

Meanwhile, the implementation of the Healthy City Program demonstrates that the community plays a much more dominant role than the Government. The community referred to here is the Sub-district Forum and the Village/Urban Working Groups. The community should first enter the participatory stage, where the community empowerment process originates from the Government together with the community, by the Government and the community, and for the community. Here, the community has been actively involved. In the participatory phase, communities are taught and trained to empower themselves to manage their health. Once the community has entered the participatory phase, it moves into the emancipatory phase with the Government's continued support. As stated by Lee (2016) and Santana (2021), the community has a significant role in reducing health risks.

The Healthy City Program is an effort to empower communities through a planned, programmed, and integrated movement that fosters a spirit of progress and positive, healthier change (Fitry et al., 2020). This is inseparable from the roles of many parties, including the Government, the private sector, and the community. Community empowerment through the Healthy City program involves several parties, including the Sub-district Head, the Healthy Sub-district Forum, the Village Working Group (PKK), the Village Head, the Village Midwife or Village Health Officer, the Environmental Cadres, and the Community Health Center. Sub-district and village governments play a crucial role in implementing this program in their respective areas, including awareness-raising and behavior change, as well as transformation and improvement.

The data analysis showed that there are three stages in the community empowerment process: awareness and behavior formation, leading to conscious, caring behavior. This involves raising public awareness through education and outreach regarding the importance of community empowerment, ensuring community understanding and willingness to implement it. The transformation stage, which involves expanding knowledge and skills to broaden horizons, is characterized by increased intellectual capacity, skills, and abilities, enabling the community to be more open and proactive, leading to independence. Healthy city programs supported by public participation and awareness tend to be more sustainable because they are not entirely dependent on government funding, are integrated into people's daily lives, and can withstand changes in leadership or policies.

The research findings indicate that the community empowerment process in Batu Regency is no longer secondary (participatory), with the community acting as independent organizers. Community empowerment has shifted to primary empowerment, as the community demonstrates a willingness to participate in the Healthy City Program. Through various learning processes within the Healthy City Program, the community ultimately develops the will to empower itself and determine the program's success, enabling them to build a clean environment and lead a clean, healthy lifestyle. Based on the presentation of the existing data, it can be concluded that the community empowerment process has reached the stage of increasing intellectual abilities, where the community's role is more dominant, so that their own skills no longer depend on the Government, thereby forming an initiative that leads to independence.

The community empowerment process in supporting the Healthy City Program involves delivering the community through facilities, with this empowerment carried out in stages. The community empowerment process in the implementation of this program collaborates with partnership institutions between the local Government and the community to empower the

community. This aligns with Palutturi et al. (2015), who argue that, to achieve a healthy city, the Government must build strong partnerships. Healthy city programs require a collaborative governance approach that involves various stakeholders (Siregar et al., 2023). According to Pugel et al. (2022), the success of collaborative programs depends on government commitment, access to resources, and active community involvement. It means that the success of collaborative programs is not determined by a single actor, but rather by the synergy between state and community actors supported by adequate resources. Collaboration requires real capacity, not just intention. Unequal access to resources will create unequal roles among collaborating actors.

CONCLUSION

The study found that Health information literacy serves as a basis for improving the quality of community participation. Without adequate access and understanding of health information, communities tend to be less involved in health programs. Community participation directly influences the success of the Healthy City program through community-based approaches, including joint planning, inclusive implementation, and continuous evaluation. The success of the Healthy City program results from the interaction between information literacy and community participation. Without citizen empowerment, top-down implementation often fails; with it, communities can design, implement, and evaluate initiatives that are relevant to their local context. With strong information literacy, the community is better able to participate actively and stay informed throughout the program. Conversely, high participation fosters a sense of collective effort toward shared health goals. Active participation creates a sense of ownership and program sustainability. The effectiveness of collaboration results from a dynamic interaction between state institutional capacity and community participation, supported by sound health information literacy. All of these elements complement each other and are key prerequisites for the sustainability and tangible impact of a collaborative program.

DECLARATION OF GENERATIVE AI

The authors declare that no generative AI or AI-assisted technologies were used in the writing process of this manuscript.

CONFLICTING INTEREST STATEMENT

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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