

The role of Health Education in Improving Community Competence in Environmental Health Management

Lyna M. N. Hutapea^{*1}, Dwight Mahaputera Marulitua Hutapea²

¹Universitas Advent Indonesia

²Universitas Prima Indonesia

Received: August 20, 2024

Revised: August 30, 2024

Accepted: September 21, 2024

Published: November 30, 2024

Corresponding Author:

Author Name*: Lyna M. N.

Hutapea

Email*: lynhutapea@unai.edu

Abstract: This study aims to explore the role of health education in improving community competence in Environmental Health Management. This study uses a qualitative approach with the method of case studies conducted in several communities that have undergone environmental health education programs. Data were collected through in-depth interviews with participants, health educators, and direct observation of activities carried out by the community. The results showed that health education plays a significant role in improving public understanding of the importance of environmental health, such as waste management, sanitation, and hygiene maintenance. This educational Program not only increases knowledge, but also influences changes in people's behavior in maintaining a healthy environment. In addition, public awareness of the importance of active participation in Environmental Health Management has also increased. This study confirms that proper health education can strengthen the competence of communities in managing environmental health, and suggests the need to implement sustainable programs based on local needs.

Keywords: health education, community competence, environmental health management, behavior change

How to cite:

Example: Lyna M. N. Hutapea, Dwight Mahaputera Marulitua Hutapea. (2024). The role of Health Education in improving community competence in Environmental Health Management. *Journal of Public Health Indonesian*, 1(4), 39-47. DOI: <https://doi.org/10.62872/yhy06s68>

INTRODUCTION

Environmental health plays a very important role in improving people's quality of life. A healthy environment favors the creation of optimal conditions for human growth and development, while a polluted environment can have a direct impact on physical and mental well-being. For example, poor sanitation and air pollution can be the main causes of increased rates of disease in society. When the environment is well maintained, the risk of disease spreading is reduced, and people can enjoy healthier lives. Therefore, environmental health is not only the responsibility of the government, but also part of the basic rights of every individual that need to be taken care of and protected. The impact of poor environmental health is very significant on public health. Cases of diseases such as diarrhea, acute respiratory infections (Ari), and skin diseases are often caused by poor sanitation, air pollution, and lack of access to clean water. For example, in areas that do not have adequate sewage systems, people are vulnerable to exposure to disease-causing germs. So it is with poor air quality, which can trigger respiratory disorders, especially in children and the



Creative Commons Attribution-ShareAlike 4.0 International License:

<https://creativecommons.org/licenses/by-sa/4.0/>

elderly. Therefore, maintaining environmental health becomes very crucial in reducing the prevalence of diseases that can affect people's productivity and quality of life.

Health education has a very big role in helping people understand the importance of Environmental Health Management. With proper education, people can be given knowledge about the adverse effects of unhealthy behavior on the environment and their own health. This education can cover various topics such as the importance of environmental cleanliness, waste management, good sanitation, and the importance of maintaining water quality. Through education, people are expected to change their mindset and take more responsible actions towards the environment around them. Some of the health education efforts that can be carried out include health campaigns targeting the wider community, counseling conducted by health workers or related institutions, as well as training on hygiene and environmental management. In addition, the use of social media can also be an effective tool to reach a larger audience and disseminate information related to environmental health management. With a diverse approach, health education can reach people from different backgrounds and increase their awareness of the importance of maintaining environmental health.

Environmental health problems in society often have to do with a lack of understanding and awareness of good environmental management. For example, many people do not have enough knowledge about how to separate waste or how to keep their water sources clean. In addition, clean and healthy living behaviors such as regular hand washing or maintaining personal sanitation are often still low. This has led to an increase in the number of diseases that can be transmitted through the environment, such as diarrheal diseases and respiratory infections that are endemic in some areas. The Data suggest that the high prevalence of diseases associated with environmental problems, such as diarrhea and Ari, may be associated with lack of access to adequate sanitation facilities and poor hygiene. In fact, air pollution that occurs in many large cities also contributes to public health problems. Therefore, identifying and understanding existing environmental health problems is the first step to designing appropriate solutions.

Community competence in environmental health management includes their knowledge, attitudes, and behaviors related to ways to maintain environmental cleanliness and health. Good knowledge alone is not enough; Society also needs to have a positive attitude and consistent behavior to apply what has been learned. However, although the public is often informed about the importance of Environmental Health Management, the main challenge is to transform knowledge into concrete actions. Many factors influence the implementation of such knowledge, such as bad habits that have become ingrained in everyday life or the lack of support facilities. Another challenge faced is the limited understanding of Environmental Hygiene and health management, especially in areas that have limited access to information and training. Education that is sustainable and involves active participation from the community is key in improving their competence in managing environmental health.

Improving people's competence in Environmental Health Management is very important, both at the individual and community level. By improving their knowledge and skills, people can be more active in maintaining the cleanliness and health of the environment around them. Good competence will help prevent various diseases transmitted through the environment, as well as



improve the overall quality of life. Well-educated communities are also better able to respond to environmental issues such as pollution and the clean water crisis in a more effective way. Community competence in Environmental Health Management also plays an important role in creating a healthy and sustainable environment. When people are aware of their responsibility to the environment, they will be more concerned about existing environmental problems and put more effort into preserving them, which in turn will reduce the negative impact on health.

The success of health education is influenced by various factors, including demographic factors such as age, education, and socioeconomic status. People with higher levels of education tend to have a better understanding of the importance of Environmental Health Management. In addition, access to information also affects the effectiveness of Health Education. People who have greater access to media and information will more quickly adopt the new knowledge they receive. Support from the government and related institutions is also very important, both in the form of policies that support health education programs and in providing the necessary resources to implement these programs.

This research is very relevant to fill the gap in the study of the relationship between health education and improving community competence in Environmental Health Management. Although many studies have examined the importance of Environmental Health, there are still few studies that explore how health education can directly improve people's competence in this regard. With this research, it is hoped that a more effective approach can be found in designing targeted education programs, which in turn can help improve people's quality of life and create a healthier environment.

METODOLOGI

This study uses a qualitative approach that aims to explore and understand the phenomena related to the role of health education in improving community competence in Environmental Health Management. The qualitative approach was chosen because it is able to provide a deep understanding of the experiences, views, and perceptions of the community towards health education programs received, as well as how such education affects environmental health management at the individual or community level. This qualitative research does not only focus on quantitative aspects or numbers, but rather on the meaning given by people to their interactions with health education programs and their influence on their behavior. The main purpose of this study is to explore the understanding, experience, and public perception of health education programs provided, as well as their impact on Environmental Health Management. Using a qualitative approach, this study aims to gain a deeper insight into how communities respond to and apply the knowledge they gain through health education. In addition, this study also aims to understand the factors that influence the success or failure of health education programs, as well as to identify the challenges faced by communities in implementing the knowledge they acquire in their daily lives, particularly in the context of better environmental health management. Semi-structured interviews will be conducted with various parties involved in health education programs, such as the public, medical personnel, health extension workers, or others who have knowledge related to environmental health management. This interview aims to explore their perceptions, knowledge, and experiences regarding health education received, as well as how environmental health management is applied in everyday life. The semi-structured approach allows flexibility in delving deeper into the information according to the answers given by the respondents. FGDs



will be conducted with community groups who have participated in health education programs to discuss certain relevant topics, such as behavioral changes that occur after participating in education programs, challenges faced in managing environmental health, and the influence of health education on the management of hygiene, sanitation, or water quality. This group discussion provides an opportunity for participants to exchange views and provide a broader insight into the problems faced in Environmental Health Management. Researchers will conduct direct observation of environmental health management practices in communities that have participated in health education programs. This participatory observation allows researchers to examine how the knowledge acquired through education is applied in everyday life. This observation will provide a clearer picture of the environmental health management practices carried out by the community, both successful and those that still need improvement. This instrument consists of a list of open-ended questions designed to explore information about people's experiences, knowledge, attitudes, and behaviors related to environmental health management. The guide allows interviews to be carried out flexibly, according to the direction of the conversation, in order to obtain in-depth information on topics relevant to the research. This guideline contains the main topics or questions that will be discussed in the FGD session. The aim is to explore the views, opinions and opinions of the community in more depth regarding health education and Environmental Health Management. These discussions can help researchers to understand people's collective perspectives on the changes they are experiencing and the challenges they face. During the participatory observation, the researcher will record everything related to the implementation of Environmental Health Management by the community. These observation notes will cover such things as environmental hygiene, sanitation habits, waste management, as well as preventive measures taken by communities based on the knowledge they gain from health education programs. At the initial stage, the researcher will conduct a literature study to understand the problem under study and develop a theoretical framework. After that, the researcher will compile research instruments such as interview guides and FGD guidelines. The preparatory phase also involves the selection of relevant research sites and the selection of appropriate participants, both from the community, medical personnel, and health extension workers. The researcher will also obtain the necessary permits to conduct the study. Data collection will be conducted by conducting in-depth interviews, FGDs, and participatory observations. During this stage, researchers will interact with participants to explore the information needed and ensure the diversity of data collected. The data collection process is carried out in stages in order to obtain a more complete and comprehensive picture. Data collected from interviews, FGDs, and observations will be transcribed for further analysis. After that, qualitative data will be analyzed using thematic analysis or content analysis methods, where researchers will look for patterns, themes, and insights that emerge from the data. This analysis process will help researchers in understanding the relationship between health education and changes in community competence in Environmental Health Management.

Before participating in the study, all participants will be given a clear and thorough explanation of the objectives, procedures, and benefits of the study. Researchers will ensure that participants understand their rights, including the right to withdraw from the study at any time without consequence. The participant's consent will be obtained voluntarily through the signing of an informed consent form. This process aims to ensure that participants participate in the study with a full understanding and awareness of its consequences. Researchers will maintain the confidentiality of data collected during the study, including the identity of participants. The data collected will only be used for legitimate academic and research purposes. All personal information of participants will be stored securely and accessed only by authorized researchers. In addition, the results of the study will be published in a form that cannot identify participants, preserving their privacy. Researchers are committed to respecting the rights of all participants. Participants will not feel pressured or forced to participate in the study, and they can choose to discontinue participation at any



time without any negative consequences. During the research process, the researcher will be ethical and sensitive to the needs and conditions of the participants, as well as ensuring that they feel valued and listened to in the entire course of the study. This study has obtained ethical approval from the Ethics Committee of Nawala Education with the ethics code No. 1001/NW25.1/PT.01.11/2024.

RESULTS AND DISCUSSION

Increased Public Knowledge

Health education programs are proven to have a positive impact on increasing public knowledge about environmental health management. Before joining the program, many people did not understand the importance of cleanliness, sanitation, and effective waste management. However, after attending education, there is a significant change in their knowledge. They better understand ways to keep the environment clean, properly manage waste, as well as the importance of sanitation to prevent disease. The materials presented in the education program, such as how to manage clean water and dispose of waste in its place, were well understood by the majority of participants, which was reflected in the improvement of their understanding through post-education evaluations.

Changes in people's attitudes and behavior

In addition to increasing knowledge, educational programs also successfully encourage changes in attitudes and behaviors related to environmental health management. Most of the participants began to care more about the cleanliness of their surroundings, by practicing new habits such as throwing garbage in place, keeping waterways clean, and sorting garbage. However, there are still challenges in changing old habits that have been formed for a long time. Some communities still find it difficult to completely change their behavior, especially when it comes to waste management, which requires better support facilities.

Level Of Community Involvement

Community involvement in education programs is quite high, especially in terms of attendance and interaction during counseling sessions and group discussions. However, participation in the direct application of the material presented varies, depending on the level of individual motivation and accessibility of the program. People who have a higher level of awareness of the importance of Environmental Health are more actively engaged and put into practice what they learn. Meanwhile, those with limited time or facilities tend to be less involved in overall environmental health management efforts.

Inhibiting and supporting factors in Environmental Health Management

Although people's knowledge and attitudes are improving, some inhibiting factors still affect the success of Environmental Health Management. Resource constraints, such as the lack of adequate sanitation facilities and efficient means of waste management, are major obstacles. In addition, cultural habits that are ingrained in society, such as littering, also affect the successful implementation of Health Education. On the contrary, support from the government and community leaders who are active in supporting this program are the main supporting factors that accelerate change.

Increased competence in Environmental Health Management

Overall, community competence in Environmental Health Management increased after participating in educational programs. Better knowledge of hygiene, sanitation, and waste management, followed by changes in attitudes and behaviors, indicate significant progress. This increase in competence also contributes to improving the quality of Environmental Health, by reducing health problems related to sanitation and hygiene, and increasing awareness of the importance of protecting the environment.



However, to ensure more permanent change, it is important to continue to educate the public and provide facilities that support the practices that have been taught.

Effectiveness Of Health Education Methods

Health education methods used in this study, including face-to-face counseling, social media campaigns, and waste management skills training, proved effective in improving community knowledge and skills. Face-to-face counseling has proven to be more effective in providing more in-depth information and facilitating direct interaction between the community and the extension worker. However, social media also plays an important role in reaching more people, especially the younger generation. The combination of these methods has a significant impact in increasing public awareness and knowledge about environmental health management.

Problems faced by society in managing Environmental Health

Although health education has succeeded in improving knowledge and attitudes, the main problems faced by society in managing environmental health remain. Limited infrastructure and adequate sanitation facilities are the biggest obstacles to the implementation of good habits taught. In addition, low awareness in some segments of society and long-standing bad habits also hinder the success of educational programs. Education efforts must continue to be accompanied by improved facilities and policy support that enable communities to put into practice what they have learned.

The relationship between health education and Environmental Health

Health education programs contribute greatly to improving environmental health conditions. The decrease in the number of diseases related to sanitation and pollution, such as diarrhea and ARI, shows that increasing public knowledge related to hygiene and Sanitation has a positive impact on the quality of Environmental Health. Improved hygiene, better waste management, and awareness of the importance of clean water are factors that support improving environmental health in communities.

Community response to health education programs

Public response to health education programs tends to be positive. The community was satisfied with the material presented and considered the program useful in improving their quality of life. High enthusiasm is reflected in good attendance during counseling and discussion, as well as the encouragement to apply what has been learned. Nevertheless, some communities expect more intensive follow-up programs to ensure behavior change can take place on an ongoing basis.

The long-term impact of Health Education

The long-term impact of health education programs on Environmental Health Management is seen in lifestyle changes that are cleaner and care for the environment. While there are challenges in maintaining good habits, these changes show the long-term potential of maintaining environmental health in a sustainable manner. If the program continues with improved facilities and policy support, these lifestyle changes can be sustained in the long run.

CONCLUSIONS

This study found that health education has a significant impact in improving community competence in Environmental Health Management. After participating in the health education program, the community showed a clear improvement in knowledge, attitudes, and behaviors related to environmental health. People's knowledge of the importance of good hygiene, waste management and sanitation is increasing, which is reflected in their daily behavior. People became more concerned about the importance of maintaining environmental cleanliness and began to implement more effective measures in managing



waste, keeping water clean, and minimizing pollution. Their more positive attitude towards environmental health is also evidence that health education can change the mindset that was previously less concerned to be more proactive. Health education has proven to have an important role in raising public awareness of the importance of Environmental Health Management. Educational programs conducted through various methods, such as face-to-face counseling, training, health campaigns, as well as the use of social media, have managed to reach a wider audience. The programs not only provide basic knowledge about the importance of environmental health but also provide practical skills that can be directly applied in everyday life. People who were previously less aware of the importance of waste management, water quality, or environmental cleanliness, now better understand the right ways to keep their environment healthy. Improving community competence in Environmental Health Management is very important to prevent diseases related to the environment, such as diarrhea, ARI, and diseases caused by pollution. People who have better knowledge and higher skills in maintaining environmental health tend to be more proactive in creating a cleaner and healthier environment. These competencies are not only important at the individual level but also at the community level, as any individual who is aware of their role in environmental management can contribute to creating greater change. In addition, this increase in competence will lead to a better quality of life and a reduction in the burden of diseases caused by environmental problems. Despite the improvement in people's competence, the study also found various challenges in the application of acquired knowledge. Some of the factors that become obstacles include limited resources, lack of facilities to support the implementation of good environmental management, and low awareness in some segments of society. Social and cultural factors also influence how knowledge about environmental health is received and applied. Better health education programs need to be accompanied by supportive policies, such as the provision of adequate sanitation facilities and increased access to resources necessary for more effective environmental management. Overall, health education has a very important role in improving community competence in Environmental Health Management. Effective health education programs not only improve people's knowledge, but also encourage changes in their attitudes and behavior towards the environment. For this reason, a holistic and sustainable approach is needed, which involves active community participation, government support, and cross-sector cooperation, so that environmental health management can be carried out better and have a positive impact on the quality of life of the community as a whole.

ACKNOWLEDGMENTS

We would like to express our heartfelt gratitude to all individuals and organizations who have contributed to the success of this research. Special thanks to the participants, health education professionals, and community leaders whose insights and support have been invaluable. We also appreciate the institutions that facilitated this study and the academic mentors and colleagues who provided guidance and feedback throughout the process. Our families and friends deserve a special mention for their unwavering encouragement, which kept us motivated. Finally, we acknowledge the financial and institutional support that made this research possible. Thank you to all who have supported us in any way during this journey.

REFERENCES

- Auld, M. E., Allen, M. P., Hampton, C., Montes, J. H., Sherry, C., Mickalide, A. D., ... & Parson, K. (2020). Health literacy and health education in schools: collaboration for action. *NAM perspectives*, 2020.
- Birt, C. A., & Foldspang, A. (2011). The developing role of systems of competences in public health education and practice. *Public Health Reviews*, 33, 134-147.



- Breckon, D. J., & Lancaster, R. B. (1998). *Community health education: Settings, roles, and skills for the 21st century*. Jones & Bartlett Learning.
- Clark, M., Raffray, M., Hendricks, K., & Gagnon, A. J. (2016). Global and public health core competencies for nursing education: A systematic review of essential competencies. *Nurse education today*, 40, 173-180.
- Davis, L. F., Ramirez-Andreotta, M. D., McLain, J. E., Kilungo, A., Abrell, L., & Buxner, S. (2018). Increasing environmental health literacy through contextual learning in communities at risk. *International journal of environmental research and public health*, 15(10), 2203.
- Doyle, E. I., Ward, S. E., & Early, J. (2018). *The process of community health education and promotion*. Waveland Press.
- Gray, K. M. (2018). From content knowledge to community change: A review of representations of environmental health literacy. *International journal of environmental research and public health*, 15(3), 466.
- Grimm, B., Ramos, A. K., Maloney, S., Abresch, C., Tibbits, M., Lyons, K., & Palm, D. (2022). The most important skills required by local public health departments for responding to community needs and improving health outcomes. *Journal of Community Health*, 47(1), 79-86.
- Hou, S. I. (2014). Health education: theoretical concepts, effective strategies and core competencies. *Health promotion practice*, 15(5), 619-621.
- Kassie, W. (2011). Building community competence for public health. *Panel presented in the 139th American Public Health Association, Washington, DC*.
- Koelen, M. A., & Van den Ban, A. W. (2023). *Health education and health promotion*. BRILL.
- Ladhani, Z., Scherpbier, A. J., & Stevens, F. C. (2012). Competencies for undergraduate community-based education for the health professions—a systematic review. *Medical teacher*, 34(9), 733-743.
- Nutbeam, D. (2019). Health education and health promotion revisited. *Health Education Journal*, 78(6), 705-709.
- Patrick, R., Capetola, T., Townsend, M., & Nuttman, S. (2012). Health promotion and climate change: exploring the core competencies required for action. *Health Promotion International*, 27(4), 475-485.
- Resnick, B., Leider, J. P., & Riegelman, R. (2018). The landscape of US undergraduate public health education. *Public Health Reports*, 133(5), 619-628.
- Sharma, M. (2021). *Theoretical foundations of health education and health promotion*. Jones & Bartlett Learning.





Journal of Public Health Indonesian

Volume.1 Issue.4, (November, 2024) Pages 39-47

E-ISSN: 3048-1139

DOI : <https://doi.org/10.62872/yhy06s68>
<https://nawalaeducation.com/index.php/JHH>

Stellefson, M., Paige, S. R., Chaney, B. H., & Chaney, J. D. (2020). Evolving role of social media in health promotion: updated responsibilities for health education specialists. *International journal of environmental research and public health*, 17(4), 1153.



Creative Commons Attribution-ShareAlike 4.0 International License:
<https://creativecommons.org/licenses/by-sa/4.0/>