

COMMUNITY-BASED COUNSELING PROGRAMS FOR PROMOTING ENVIRONMENTAL AWARENESS AND HEALTH

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ABSTRACT:

Environmental degradation and health challenges are pressing global concerns that require community-based interventions. This is because community-based counseling programs function as essential instruments to teach citizens about sustainable practices alongside health prevention methods. The current research therefore examined the performance of community-based counseling initiatives to raise environmental understanding and health practices among senior secondary school population in Anambra state. Three sets of research questions together with hypotheses steered the investigation. The study based its framework on Social Cognitive Theory (SCT) and descriptive survey research design. Stratified random sampling was used to pick 99 participants from multiple demographic categories. The study employed structured questionnaires to acquire data points. The questionnaire followed validation from experts in counseling and environmental studies and passed reliability testing through Cronbach's alpha coefficient (0.87). Data collected was analyzed using descriptive statistics (mean, frequency, percentage and standard deviation) and inferential statistics (Kruskal-Wallis Test) to determine variations in responses based on demographic factors. The research shows that community-based counseling programs significantly influence environmental awareness and health outcomes. Tree planting and clean-up campaigns received the highest rating (mean of 3.36), while promoting climate action had the lowest (2.58). Counseling interventions effectively improved health outcomes, especially in addressing climate change (mean of 3.49). Community members generally supported programs integrating environmental health education, with the highest mean for fostering participation (3.52). Kruskal-Wallis tests indicated no gender difference in environmental awareness and attitudes, but a significant impact on health outcomes. The study recommended that governmental support should expand alongside non-governmental backing of counseling programs and legislative structures should implement environmental educational standards within community counseling services.

Keywords: Community-based counseling, environmental awareness, health promotion, sustainability, behavioral change.

INTRODUCTION

Environmental degradation and public health challenges are interwoven global concerns that demand holistic and grassroots responses. However, many communities, especially in developing regions, remain ill-informed about the

health implications of environmental practices. Formal institutions often fail to reach marginalized populations effectively, resulting in poor waste management, water contamination, deforestation, and unhealthy living conditions. Community-based counseling programs have emerged as innovative platforms for bridging the gap between environmental knowledge and behavioral change, yet their application remains underexplored in many settings, particularly in rural and peri-urban communities. Community-based counseling programs, as explained by Johnston et al. (2013), are locally driven initiatives designed to provide guidance and support to individuals and groups within a particular community.

These programs focus on addressing shared concerns such as environmental, health, or social challenges through interactive dialogue, education, and behavior change strategies that aim to improve the overall well-being of the community. According to Jensen and Case, (2022), community-based counseling programs are structured and culturally sensitive interventions delivered by trained facilitators. These programs are rooted in the community and are used to tackle pressing issues like environmental degradation and public health risks. They draw on local traditions, values, and existing structures to enhance awareness, build resilience, and encourage lasting positive behavioral changes. Community-based counseling programs operate on the principle of participatory communication, where facilitators and participants engage in dialogue to solve localized problems. Such interventions aim not only to inform but also to motivate communities toward healthier and environmentally friendly practices (Sidik et al., 2024). These

programs typically involve stakeholders such as community leaders, local health workers, environmental advocates, and educators, who serve as change agents within their environments.

Research indicates that community counseling plays a vital role in increasing environmental consciousness. According to Altassan (2023), environmental education, when integrated into community counseling sessions, enables residents to understand the direct consequences of their actions on the ecosystem. Topics such as the dangers of indiscriminate waste disposal, open defecation, and bush burning are addressed with context-specific solutions. The use of local languages and culturally sensitive approaches improves comprehension and retention of environmental knowledge. Moreover, health education is often delivered alongside environmental messages, emphasizing the link between hygiene practices and disease prevention. Hulukati and Lakadjo (2025) observed that in communities with community-based health and environmental counseling programs, there was a significant reduction in malaria incidence due to improved sanitation and stagnant water control. This supports the view that combining environmental awareness with health education creates a synergy that enhances behavioral outcomes.

Community-based programs are also adaptable, allowing counselors to respond to emerging environmental health threats. For example, during the COVID-19 pandemic, several Nigerian communities utilized counseling platforms to disseminate hygiene protocols, debunk myths, and promote vaccination (Apeh et al., 2024). This adaptability demonstrates the potential of community counseling

structures to address both chronic and emergent health-environment issues. Justifying a study on community-based counseling programs for promoting environmental awareness and health is timely and essential, given the increasing intersection between environmental degradation and public health concerns. Many communities, especially in rural and underserved areas, remain unaware of the environmental risks that contribute to disease outbreaks, such as poor waste disposal, contaminated water, and air pollution (Hussein-Mustafa et al., 2023). Yet, limited research has explored how counseling programs can effectively raise awareness and promote healthy environmental practices at the grassroots level.

The first objective focuses on the role of community-based counseling in enhancing environmental awareness. Although studies have documented general environmental campaigns, there is a lack of emphasis on personalized, dialogue-based interventions such as counseling (Johnston et al, 2013). The second objective addresses how these interventions influence health outcomes. While public health studies often highlight environmental causes of illness, few have linked structured community counseling efforts to measurable health improvements. Lastly, exploring community attitudes remains under-researched. Most programs assume passive acceptance without investigating perceptions, cultural relevance, or resistance to counseling approaches. This study, therefore, fills critical gaps by evaluating effectiveness, health impact, and receptiveness to counseling programs that blend environmental and health education.

Research questions

1. What role do community-based counseling programs play in enhancing environmental awareness among local residents?
2. What is the impact of counseling interventions on health outcomes related to environmental issues within the community?
3. What are the attitudes of community members toward counseling programs that integrate environmental health education?

Hypotheses

H₀₁: Community-based counseling programs have no significant role in enhancing environmental awareness among local residents.

H₀₂: Counseling interventions have no significant impact on health outcomes related to environmental issues within the community.

H₀₃: There is no significant difference in the attitudes of community members toward counseling programs that integrate environmental health education.

Theoretical framework

The study is anchored on Social Cognitive Theory (SCT), developed by Albert Bandura in 1963. This theory focuses on how people learn and develop behaviors by interacting with their environment and observing others. According to SCT, behavior is shaped by a continuous interaction between personal, behavioral, and environmental factors. One key idea is reciprocal determinism, which suggests that an individual's actions, their thoughts, and their environment influence each other. Another crucial aspect is self-efficacy, or the belief in one's ability to succeed, which determines whether someone will take action in certain situations. SCT also

highlights the role of reinforcement and punishment in encouraging or discouraging specific behaviors.

In the context of community-based counseling programs for promoting environmental awareness and health, SCT provides a useful lens. It helps us understand how individuals in the community can learn environmentally friendly behaviors by observing others who model those behaviors. For example, community leaders or peers who practice eco-friendly habits can inspire others to adopt similar actions. Counseling programs can also boost individuals' self-efficacy, making them feel more confident in their ability to contribute to environmental preservation and improve their health. This approach can lead to a more proactive and health-conscious community, where people actively engage in behaviors that benefit both the environment and their well-being.

METHODOLOGY

The study adopted a descriptive survey design to explore the effectiveness of community-based counseling programs in promoting environmental awareness and health among the senior secondary school population in Anambra State. The research was conducted within senior secondary schools across different communities in Anambra State that had already participated in environmental health initiatives and counseling programs. These schools were selected because they had a history of engaging students in community-based programs aimed at increasing environmental awareness and improving health outcomes. To ensure the sample was representative, stratified random sampling was employed. A total of 99 students were selected from gender based demographic

categories to reflect the diversity of the school population.

A structured questionnaire was used as the primary instrument for data collection. The questionnaire was designed to gather information on the students' environmental awareness, health behaviors, and their experiences with the counseling programs. Before being used, the instrument was validated by experts in counseling and environmental studies to ensure it was relevant and clear. Feedback from these experts led to necessary revisions to make the instrument more effective in measuring the intended concepts. To assess the reliability of the questionnaire, Cronbach's alpha was used, and the resulting coefficient of 0.87 indicated a high level of internal consistency. This meant the items in the questionnaire were reliable for measuring environmental awareness, health behaviors, and the effectiveness of the counseling programs.

Data collection was carried out by trained enumerators who administered the questionnaires electronically. The questionnaires were distributed within the schools, making it easier for students to participate. For data analysis, both descriptive and inferential statistical techniques were employed in SPSS software. Descriptive statistics, including mean, variance and standard deviation, were used to summarize the responses and describe the students' levels of environmental awareness and health behaviors. To explore any differences in responses based on demographic factor, the Kruskal-Wallis Test was applied. This non-parametric test was chosen because the data did not meet the assumptions required for parametric analysis. It allowed the researchers to determine whether there

were significant differences in responses across various demographic categories.

RESULTS

Table 1: Gender distribution of respondents in the study.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	7	7.1	7.1	7.1
Female	92	92.9	92.9	100.0
Total	99	100.0	100.0	

Table 1 reveals a significant gender imbalance among participants, with females comprising the majority (92.9%, $n = 92$), while males represented only 7.1% ($n = 7$) of the sample. This disparity suggests that findings may be more reflective of female perspectives, potentially influencing generalizability

across genders. The cumulative percentage confirms full representation was achieved with 99 total respondents.

Research question 1: What role do community-based counseling programs play in enhancing environmental awareness among local residents?

Table 2: Descriptive Statistics on Community-Based Counselling Programs' Role in Enhancing Environmental Awareness

Item Statement	Mean	Std. Deviation	Variance
Community-based counseling programs promote awareness on pollution, waste reduction strategies.	2.92	1.131	1.279
Community-based counseling programs involve residents in tree planting, clean-up campaigns.	3.36	.483	.234
Community-based counseling programs teach sustainable living through interactive environmental education sessions.	3.10	.776	.602
Community-based counseling programs support eco-friendly practices among households, community members.	2.61	1.038	1.078
Community-based counseling programs influence attitudes toward climate action, environmental conservation.	2.58	1.286	1.655
Valid N (listwise)			

The data in Table 2 reveals that community-based counseling programs have a significant role in enhancing environmental awareness. The highest mean of (3.36) was observed for promoting involvement in tree planting and clean-up campaigns, with a low standard deviation of (0.483), indicating consistent responses. In contrast, promoting attitudes towards

climate action showed the lowest mean of (2.58), with a higher standard deviation of (1.286), suggesting variability in participants' perceptions.

Research question 2: What is the impact of counseling interventions on health outcomes related to environmental issues within the community?

Table 3: Descriptive Statistics on the Impact of Counselling Interventions on Health Outcomes

Item Statement	Mean	Std. Deviation	Variance
Counseling interventions promote healthier behaviors and reduce environmental health risks.	3.39	.620	.384
Counseling programs encourage clean water practices, improving community health outcomes.	3.04	1.253	1.570
Community-based counseling improves mental health by addressing environmental stressors effectively.	3.25	.612	.374
Counseling initiatives educate individuals on reducing exposure to environmental toxins.	3.07	1.136	1.291
Counseling interventions enhance public health by addressing climate change effects.	3.49	.522	.273
Valid N (listwise)			

The data in Table 3 highlights the positive impact of counseling interventions on health outcomes related to environmental issues. The highest mean of (3.49) was found in counseling interventions addressing the effects of climate change on public health, with a low standard deviation of (0.522), reflecting consistent agreement. The lowest mean of (3.04) was observed for

counseling programs promoting clean water practices, with a higher standard deviation of (1.253), indicating some variation in responses.

Research question 3: What are the attitudes of community members toward counseling programs that integrate environmental health education?

Table 4: Descriptive Statistics on Attitudes Toward Counseling Programs Integrating Environmental Health Education

Item Statement	Mean	Std. Deviation	Variance
Community members appreciate counseling programs integrating environmental health education effectively.	3.32	.470	.221
Residents actively engage in counseling programs addressing environmental health concerns.	2.72	1.238	1.531
Counseling programs with environmental education foster increased community participation and awareness.	3.52	.522	.273
Many community members support counseling programs that promote environmental health.	3.32	.697	.486
Community members view counseling programs as valuable for environmental health education.	3.10	.920	.847
Valid N (listwise)			

The data in Table 4 reveals that community members generally have a positive attitude toward counseling programs that integrate environmental health education. The highest mean of (3.52) was observed for counseling programs fostering increased community

participation and awareness, with a low standard deviation of (0.522), suggesting strong agreement. The lowest mean of (2.72) was found for active engagement in such programs, with a higher standard deviation of (1.238), indicating greater variability in responses

Normality test

Table 5: Tests of Normality for the Role of Counseling Programs on Environmental Awareness and Health Outcomes

	Gender	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Role of community-based counseling programs in enhancing environmental awareness among local residents	Male	.304	7	.049	.819	7	.062
	Female	.136	92	.000	.969	92	.027
Impact of counseling interventions on health outcomes related to environmental issues within the community	Male	.324	7	.025	.744	7	.011
	Female	.129	92	.001	.959	92	.005
Attitudes of community members toward counseling programs that integrate environmental health education	Male	.185	7	.200*	.967	7	.877
	Female	.109	92	.009	.969	92	.025

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The Kolmogorov-Smirnov and Shapiro-Wilk tests in Table 5 assess the normality of data distributions. For the role of community-based counseling programs in enhancing environmental awareness, the male group shows normality ($p = .062$, $p > 0.05$), but females do not ($p = .000$, $p < 0.05$). For the impact of counseling interventions on health outcomes, the male group is not normally distributed ($p = .025$),

while females also deviate from normality ($p = .001$). For attitudes toward counseling programs, the male group is normal ($p = .200$), but females are not ($p = .009$). For hypothesis testing, since the data does not follow a normal distribution for most groups, non-parametric tests like the Mann-Whitney U test or Kruskal-Wallis H test should be used for comparing differences between genders.

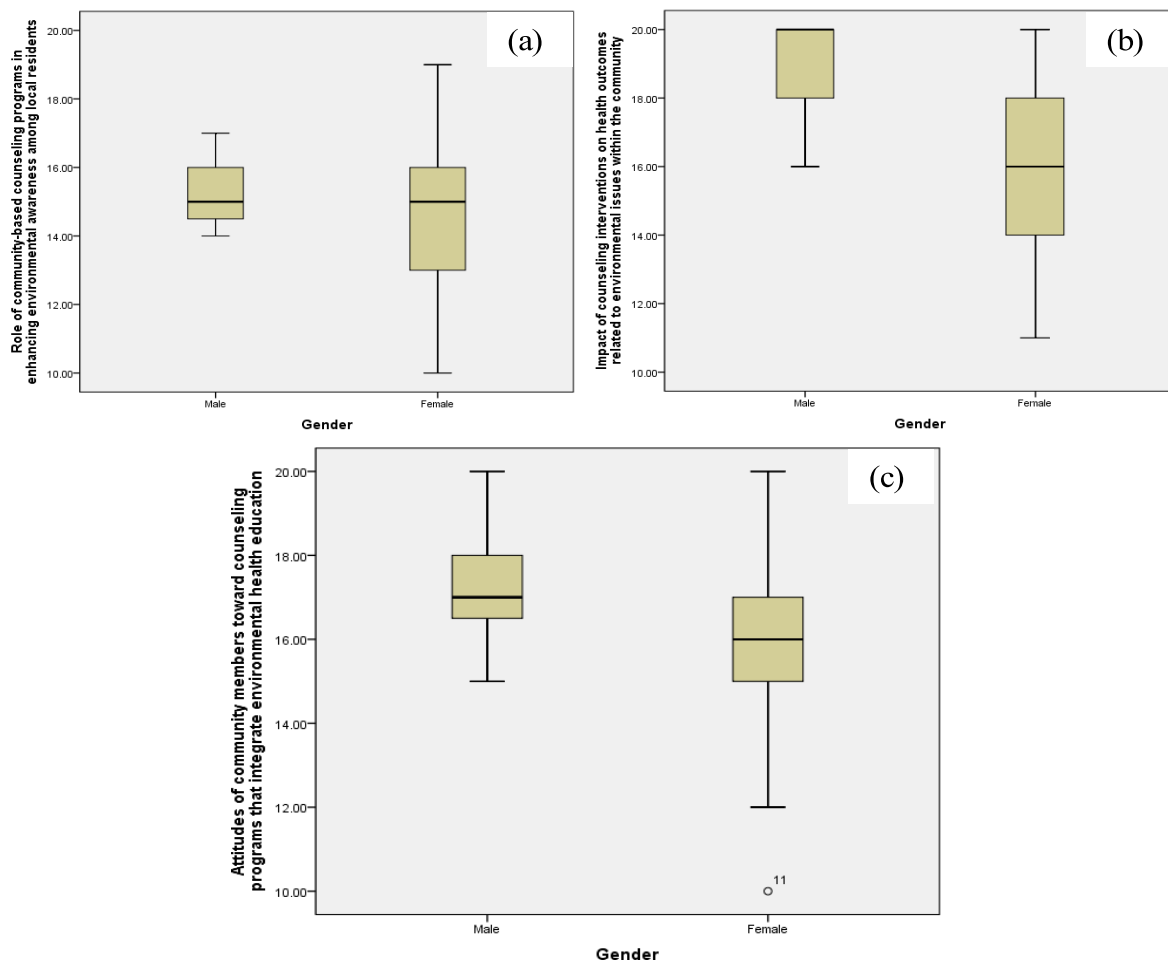


Figure 1: Gender-based boxplot comparisons on (a) the role of community-based counseling programs in enhancing environmental awareness, (b) the impact of counseling interventions on health outcomes related to environmental issues, and (c) attitudes of community members toward counseling programs that integrate environmental health education.

The boxplots in Figure 1 show that females exhibited a wider range of responses than males across all variables. In (a), females displayed greater variability in perception scores, while males had a more consistent but slightly lower median (~ 14.5). In (b), males reported higher median health impact scores (~ 18) than females (~ 14). In (c), both genders had similar medians (~ 16), though

females had more dispersed responses, including a mild outlier (~11).

role in enhancing environmental awareness among local residents.

Hypothesis 1: Community-based counseling programs have no significant

Table 6: Kruskal-Wallis Test for Community-Based Counseling Programs' Role in Enhancing Environmental Awareness Among Local Residents

Gender	N	Mean Rank	Chi-Square	df	Asymp. Sig.
Male	7	61.71	1.295	1	.255
Female	92	49.11			
Total	99				

The Kruskal-Wallis test in Table 6 assesses whether community-based counseling programs have a significant role in enhancing environmental awareness among local residents, based on gender. The mean rank for males (61.71) is higher than that of females (49.11). However, the Asymp. Sig. value (0.255) is greater than 0.05, indicating that there is no significant difference between male and female

responses. Therefore, the null hypothesis stating that community-based counseling programs have no significant role in enhancing environmental awareness is not rejected.

Hypothesis 2: Counseling interventions have no significant impact on health outcomes related to environmental issues within the community.

Table 7: Kruskal-Wallis Test for Impact of Counseling Interventions on Health Outcomes Related to Environmental Issues

Gender	N	Mean Rank	Chi-Square	df	Asymp. Sig.
Male	7	80.21	8.490	1	.004
Female	92	47.70			
Total	99				

The Kruskal-Wallis test in Table 7 evaluates whether counseling interventions have a significant impact on health outcomes related to environmental issues. The mean rank for males (80.21) is significantly higher than for females (47.70). The Asymp. Sig. value (0.004) is less than 0.05, indicating a statistically significant difference between male and

female responses. Therefore, the null hypothesis, which states that counseling interventions have no significant impact on health outcomes, is rejected.

Hypothesis 3: There is no significant difference in the attitudes of community members toward counseling programs that integrate environmental health education.

Table 8: Kruskal-Wallis Test for Attitudes of Community Members Toward Counseling Programs Integrating Environmental Health Education

Gender	N	Mean Rank	Chi-Square	df	Asymp. Sig.
Male	7	67.71	2.924	1	.087
Female	92	48.65			
Total	99				

The Kruskal-Wallis test in Table 8 assesses whether there is a significant difference in the attitudes of community members toward counseling programs that integrate environmental health education. The mean rank for males (67.71) is higher than for females (48.65). However, the Asymp. Sig. value (0.087) is greater than the 0.05 significance level, suggesting that there is no statistically significant difference between the attitudes of males and females. Therefore, the null hypothesis, which states that there is no significant difference in attitudes, cannot be rejected.

DISCUSSION

Community-based counseling programs have increasingly become effective platforms for enhancing environmental awareness and promoting healthier lifestyles in local communities. These programs often employ participatory approaches such as clean-up campaigns, tree planting, and interactive education sessions to sensitize residents on environmental concerns and motivate eco-conscious behavior. According to the findings, community-based counseling significantly raised awareness of pollution and waste management practices among rural dwellers in Osun State. In contrast, Alimoradiyan et al. (2024) reported that without consistent engagement through structured programs, many urban residents showed limited understanding of

sustainable waste reduction strategies. In a related study, Sidik et al. (2024) emphasized that involving residents in community-driven environmental campaigns like tree planting fosters a sense of ownership and responsibility. This finding agreed with Cheng et al. (2019), who noted that when residents participated in environmental activities, their attitudes toward sustainability and conservation improved markedly. Community-based counseling also integrates environmental education in engaging formats, which according to Skogen et al. (2018), enhances residents' understanding of complex ecological issues like climate change and biodiversity loss. These programs are further instrumental in promoting sustainable living practices among households. For example, Altassan (2023) observed that communities exposed to environmental counseling sessions began adopting household recycling habits and energy-saving techniques.

Regarding the impact of counseling interventions on health outcomes, several studies underscore the correlation between environmental awareness and public health. It was found that counseling initiatives that promote clean water usage directly improved health outcomes by reducing waterborne diseases in low-income areas. This finding was consistent with Saleh et al. (2020), who reported a decline in respiratory-related health issues in communities where counseling programs

addressed indoor and outdoor air pollution. Furthermore, these interventions positively affect mental health by reducing environmental stressors. Hulukati et al. (2025) highlighted that counseling services that address environmental noise and waste accumulation help reduce anxiety and depression among community members. Similarly, Lawrence and Falaye (2020) noted that discussions around climate-induced trauma and displacements in counseling sessions have helped communities build resilience and emotional stability.

Moreover, counseling interventions educate individuals on minimizing exposure to environmental toxins, such as pesticides, heavy metals, and industrial emissions. In a related study, Apeh et al. (2024) emphasized the role of local counselors in enlightening farmers about the health risks of overusing agrochemicals. In contrast, Ozobu et al. (2025) revealed that in regions lacking such counseling, incidents of toxic exposure remained alarmingly high. On community attitudes toward such programs, research indicates growing appreciation. A majority of participants acknowledged the relevance of integrating environmental health into counseling. This finding aligns with Cardarelli et al. (2021), who found that environmental health themes in counseling enhanced participation rates, particularly among women and youth. Residents also showed strong support for environmental counseling, as observed by Hussein-Mustafa et al. (2023), who noted that these programs were viewed as both educational and empowering. The role of community-based counseling in enhancing environmental awareness and promoting health is well-documented and growing in recognition. These programs not only foster

environmentally responsible behaviors and improve health outcomes but also enhance community participation and resilience in the face of environmental challenges.

CONCLUSION

This study has demonstrated that community-based counseling programs play a significant role in enhancing environmental awareness and promoting better health outcomes within local communities. The findings reveal that these programs effectively encourage participation in activities like tree planting, clean-up campaigns, and the adoption of sustainable living practices. Moreover, counseling interventions have proven to improve health behaviors by addressing environmental health risks, promoting clean water practices, and reducing exposure to environmental toxins. The study also highlights that community members have generally positive attitudes toward counseling programs that integrate environmental health education. The data indicates that these programs foster increased community participation, raise awareness, and enhance support for environmental conservation efforts. However, some challenges exist, as the engagement levels of community members can vary, particularly regarding active participation in environmental health initiatives.

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