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DEVELOPING A COMMUNITY-BASED WELLNESS EDUCATION AND EXTENSION MODEL FOR HEALTH PROMOTION IN ADULT AND NON-FORMAL EDUCATION IN NIGERIA

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Abstract

This study investigated the development of a community-based wellness and extension education model as a strategic intervention for promoting health among adult and non-formal learners in Nigeria. Anchored on the theoretical framework of socio-ecological and adult learning theories, the study adopted a descriptive survey design to examine the relationship between wellness education awareness and health practices, the influence of the model on instructional delivery, and its potential integration into adult learning structures. A total of 480 respondents were selected from six states and the Federal Capital Territory (FCT) within North Central Nigeria using stratified and purposive sampling techniques. The research instruments included structured questionnaires validated through expert review and reliability tests (Cronbach's Alpha = 0.83). Data were analyzed using mean, standard deviation, Pearson Product Moment Correlation, independent samples t-test, and ANOVA at 0.05 significance level. The findings revealed a significant positive relationship ($r = 0.826$, $p < 0.001$) between awareness of community-based wellness education and the adoption of healthy lifestyle practices. Gender-based analysis using t-test showed a statistically significant

Keywords: Wellness education, adult learners, extension education, health promotion, instructional delivery, Nigeria

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difference in model adoption between male and female adult learners (t = 7.00, p = 0.000), with males recording higher mean scores. Furthermore, ANOVA revealed a significant difference in the perceived relevance of the model across regions (F = 6.44, p = 0.014), though the practical impact appeared modest. These findings underscore the importance of embedding wellness and extension education into adult learning systems for holistic health promotion. The study concludes that wellness education models can be vital tools in public health advocacy through adult education channels. It recommends that policymakers integrate such models into existing literacy and non-formal education curricula, with attention to gender-responsive strategies and regional implementation dynamics.

Introduction

Globally, education has evolved beyond literacy and skill acquisition to become a vital platform for promoting health and well-being. The World Health Organization (2018) defines health promotion as the process of enabling people to increase control over and improve their health. Community-based wellness education, therefore, has emerged as a strategic response to rising public health concerns, especially in adult learning systems of developed nations like Finland and Canada. These models emphasize preventive health practices, self-care, and lifestyle change through participatory and non-formal learning.

In Nigeria, adult and non-formal education (NFE) remains largely focused on literacy and vocational skills, with limited integration of wellness education. Consequently, many adult learners—particularly in rural communities—continue to face preventable health issues such as hypertension, poor nutrition, and low sanitation awareness. Okediran (2017) notes that this persistent gap in health knowledge contributes significantly to the country's growing burden of non-communicable diseases. Despite ongoing health campaigns, many interventions lack local relevance and fail to leverage the community-learning potential of NFE programs.

The theoretical foundation for this study is drawn from Knowles' Adult Learning Theory and the Health Belief Model (HBM). Knowles (1980) emphasizes that adult learners are self-directed and problem-centered, thriving best when learning addresses immediate life challenges. Similarly, the HBM posits that individuals are more likely to adopt health behaviors if they perceive a risk, believe in the effectiveness of an action, and recognize the benefits of change. Integrating these two perspectives provides a robust basis for developing a wellness education model that is both responsive to adult learners' realities and effective in promoting behavioral change.

Extension education—traditionally applied in agricultural transformation—offers additional relevance. As highlighted by Ameh and Oguche (2019), its participatory and culturally grounded methods are well-suited for health literacy promotion in under-resourced communities. Therefore, adapting extension methods within NFE holds potential for bridging the gap between health knowledge and practice.

This study aims to develop a community-based wellness education and extension model tailored for adult and non-formal education in Nigeria. The model seeks to promote accessible, culturally appropriate, and sustainable health education through adult-centered, participatory, and community-led approaches. The findings are expected to inform curriculum innovation and policy reform in the integration of wellness into adult learning systems in Nigeria.

Statement of the Problem

In an ideal society, individuals take deliberate actions to support their well-being—maintaining hygiene, engaging in physical activity, eating healthily, and seeking preventive health care. Wellness, as a multidimensional concept, should be embedded in lifelong learning and accessible through community development initiatives. However, in many underserved regions of Northern Nigeria, wellness education remains limited or absent, particularly among adult learners in non-formal education settings.

Many adults continue to lack basic knowledge of hygiene, fitness, nutrition, and disease prevention. Socioeconomic constraints, cultural influences, and low educational attainment further compound these challenges. Despite national campaigns such as those led by the NPHCDA and initiatives like Keep Fit Nigeria, the uptake of wellness practices remains poor. Lifestyle-related illnesses such as hypertension, diabetes, and obesity are increasingly common among adults who could have benefitted from earlier health education interventions. Alarmingly, adult learners in literacy centers are often left out of mainstream health promotion efforts. This raises important questions: How can a community-based wellness education model be developed for adult and non-formal education settings? In what ways can such a model influence health behaviors such as hygiene, physical activity, and disease prevention?

Despite ongoing advocacy, many adults continue to neglect healthy practices, even when minor behavioral changes could significantly improve their quality of life. This study is therefore crucial. By designing a localized, community-driven wellness education model tailored for adult learners, this research seeks to bridge the gap between literacy development and health promotion. The results are expected to inform policy, enhance curricula, and promote healthier living among underserved populations in Northern Nigeria.

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Objectives

1. To examine the extent to which a community-based wellness education model and extension can be developed to support health promotion within adult and non-formal learning settings in Nigeria
2. To determine how the developed wellness and extension education model can be effectively integrated into the instructional framework of adult and non-formal education programs
3. To determine the impact of the wellness and extension education model on the health behaviors of adult learners in terms of hygiene, physical activity, and disease prevention

Research Questions

1. To what extent can a community-based wellness education model and extension can be developed to support health promotion within adult and non-formal learning settings in Nigeria
2. How can the developed wellness and extension education model be effectively integrated into the instructional framework of adult and non-formal education programs?
3. What is the impact of the wellness and extension education model on the health behaviors of adult learners in terms of hygiene, physical activity, and disease prevention?

Hypotheses

1. There is no significant relationship between the development of a community-based wellness and extension education model and the promotion of health among adult and non-formal learners in Nigeria
2. The integration of the wellness and extension education model into adult and non-formal education programs does not significantly influence the instructional delivery framework.

Methodology

This study adopted a developmental research design using a mixed-methods approach, which integrated both qualitative and quantitative methods to explore, develop, and evaluate a community-based wellness education model tailored for adult and non-formal learning settings in Nigeria. The target population comprised adult learners enrolled in non-formal education programmes, facilitators/instructors, health education officers, and community development/extension workers across the seven states in North Central Nigeria: Niger, Kwara, Kogi, Benue, Nasarawa, Plateau, and the Federal Capital Territory (FCT) Abuja.

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Based on secondary data and field estimations, the population figures for each category were as follows:

Table 1: The population figures for each category of the respondents

Category	Population
Adult Learners	39,800
Facilitators/Instructors	3,800
Health Education Officers	1,400
Extension Workers	2,800
Total	47,800

Source: Secondary data from Agency for Mass Education In the North Central States

Given the large and diverse population, a multi-stage sampling technique was employed:
Stage One – Purposive Sampling: The seven states were purposively selected due to active implementation of adult and non-formal education programs and notable issues related to poor wellness practices.
Stage Two – Stratified Sampling: Within each state, respondents were stratified into four key subgroups: Adult Learners, Facilitators/Instructors, Health Education Officers, and Extension Workers.
Stage Three – Proportional Random Sampling: A total sample of 480 respondents was drawn proportionally from the total population, ensuring balanced representation across all strata.

Table 2: The distribution of population and Sample Table

State	Total Population	Proportional Sample
Niger	9,000	90
Kwara	7,400	74
Kogi	6,600	66
Benue	8,100	81
Nasarawa	5,050	51
Plateau	6,700	67
FCT Abuja	4,950	50
Total	**47,800**	**480**

Source Field Work report 2025

The primary data collection instrument was a researcher-designed questionnaire titled Wellness Education and Health Promotion Questionnaire (WEHPQ). The instrument contained three sections aligned with the study's research questions, each with seven (7)

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items rated on a 4-point Likert scale: Strongly Agree, Agree, Disagree, Strongly Disagree. To complement the quantitative data, semi-structured interviews were conducted with selected facilitators and community development officers.

The instrument's validity was established through expert reviews by three specialists from the Departments of Adult and Non-Formal Education, Community Development, and Human Kinetics and Health Education. A pilot study involving 30 respondents from a state outside the study area was conducted to test reliability, and a Cronbach's Alpha coefficient of 0.78 confirmed internal consistency.

Data collection was carried out in person, with assistance from trained field workers. Permission letters were issued to adult learning centers, local health departments, and community organizations to facilitate access.

Data were analyzed using descriptive statistics (mean and standard deviation) to answer the research questions, while inferential statistics (Analysis of Variance - ANOVA and regression analysis) were employed to test the null hypotheses at a 0.05 level of significance. Thematic analysis was used for qualitative interview responses.

Results and Discussion

Table 3 Frequency and percentage statistics of the Demographic Characteristics of the respondents

Category	Frequency	Percentage
Adult Learners	400	83%
Facilitators/Instructors	38	8%
Health Education Officers	14	3%
Extension Workers	28	6%
Total	480	100

Source Field Work report 2025

The demographic breakdown shows that the majority of respondents (83%) were adult learners, the primary beneficiaries of the wellness education model. Facilitators/Instructors made up 8%, Health Education Officers 3%, and Extension Workers 6%, reflecting a broad and inclusive representation of stakeholders in adult and non-formal education.

Research Question 1: To what extent can a community-based wellness education model be developed to support health promotion within adult and non-formal learning settings in Nigeria?

Table 4: Mean and Standard Deviation Scores on Feasibility of Model Development

Table 4: Mean and standard deviations score on the a extent a community-based wellness education model can be developed to support health promotion within adult and non-formal learning settings in Nigeria

Items	Statement	N	Mean	SD	Decision
1	Community leaders are willing to support wellness education initiatives	480	2.89	0.82	Agree
2	Wellness education addresses relevant community health challenges	480	2.93	0.77	Agree
3	The wellness model aligns with adult learners' health needs	480	3.00	0.88	Agree
4	Extension agents can effectively deliver wellness education	480	3.01	0.8	Agree
5	Local resources are sufficient to support wellness program implementation	480	2.90	0.88	Agree
6	Community participation enhances model sustainability	480	2.86	0.84	Agree
	Aggregate Mean Score	**480**	**2.93**		**Agree**

Source Field Work report 2025

Respondents generally agreed on the feasibility of developing a community-based wellness education model. Items relating to community support, alignment with learner needs, and extension delivery scored above the 2.50 benchmark. While confidence was high, slight concerns were noted around resource sufficiency and community engagement. The overall mean of 2.93 supports the model's development potential.

Research Question 2: How can the developed wellness and extension education model be effectively integrated into the instructional framework of adult and non-formal education programs?

Table 5. Mean and standard deviations score on the developed wellness and extension education model be effectively integrated into the instructional framework of adult and non-formal education programs

Items	Statement	N	Mean	SD	Decision
7	Facilitators understand how to incorporate wellness content into instruction	480	3.16	0.64	Agree
8	Training is available for instructors to adopt the model	480	3.09	0.73	Agree

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Items	Statement	N	Mean	SD	Decision
9	The model complements existing adult education programs	480	3.14	0.71	Agree
10	Stakeholders support integration of wellness into non-formal education	480	3.12	0.66	Agree
11	Curriculum can be adjusted to include wellness themes	480	3.12	0.64	Agree
12	The model improves delivery methods in adult education	480	2.89	0.80	Agree
	Aggregate Mean score		**3.035**		

Source: Field Work report 2025

The integration of the wellness model into adult education frameworks is strongly supported. High means across items reflect confidence in facilitator readiness, stakeholder support, and curriculum flexibility. The slightly lower score for delivery improvement (2.89) suggests room for enhancing teaching strategies and infrastructure. Overall, responses indicate a high potential for practical integration

Research Question 3: What is the impact of the wellness and extension education model on the health behaviors of adult learners in terms of hygiene, physical activity, and disease prevention?

Table 6: Mean and Standard Deviation Scores on the Impact of the Wellness Model on Learners' Health Behaviors

Items	Statement	N	Mean	SD	Decision
13	The model improves learners' hygiene practices	480	3.67	0.47	Agree
14	The model increases participation in physical activities	480	3.64	0.52	Agree
15	Learners show improved attitudes toward preventive health	480	3.74	0.44	Agree
16	The model enhances disease awareness and control	480	3.59	0.55	Agree
17	Health discussions have become more regular among learners	480	3.7	0.46	Agree
18	Learners actively practice wellness in daily routines	480	3.71	0.48	Agree
	Aggregate Mean Score		3.675		

Source:Field Work report 2025

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Findings reveal a strong positive impact of the wellness model on learners' health behaviors. High mean scores (above 3.50) indicate significant improvements in hygiene, physical activity, disease prevention, and daily wellness habits. The consistent standard deviations (below 0.55) suggest broad agreement among respondents. These results highlight the model's effectiveness in promoting sustainable health behaviors among adult learners.

HO1. There is no significant relationship between the development of a community-based wellness and extension education model and the promotion of health among adult and non-formal learners in Nigeria.

Table 7: Summary of Pearson Product Moment Correlation on significant relationship between the development of a community-based wellness and extension education model and the promotion of health among adult and non-formal learners in Nigeria.

Variables	N	Mean	Std. Dev.	Std. Error	r (Correlation)	df	p-value
Awareness of Community-Based Wellness Education	480	49.69	9.92	0.45	0.826	478	< 0.001
Adoption of Healthy Lifestyle Practices	480	34.39	8.85	0.40			

The result shows a strong positive correlation (r = 0.826) between awareness of wellness education and the adoption of healthy lifestyle practices. The p-value < 0.001 indicates this relationship is statistically significant, thus the null hypothesis is rejected.

H_{02}: The integration of the wellness and extension education model into adult and non-formal education programs does not significantly influence the instructional delivery framework.

Table 8: Summary of Independent Samples t-test Summary Table on Gender Differences in Model Adoption

Group	N	Mean	Standard Deviation	Standard Error	t-7.00value	df	Sig. (2-tailed)
Male Learners	270	3.87	0.49	0.03			0.000***
Female Learners	210	3.45	0.52	0.04			

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From the independent samples t-test conducted to examine whether there is a significant difference between male and female adult learners in their adoption of the wellness education model, the result showed that male learners (Mean = 3.87, SD = 0.49) had a higher average score compared to female learners (Mean = 3.45, SD = 0.52). The calculated t-value was 7.00 while the degree of freedom (df) was 478. When compared with the critical t-value of approximately 1.96 at 0.05 level of significance (two-tailed test), it was observed that the calculated t-value (7.00 > 1.96) falls within the rejection region. Additionally, the p-value was 0.000, which is less than 0.05, indicating that the result is statistically significant. This further confirms that there is enough evidence to reject the null hypothesis that there is no significant difference between male and female learners in their adoption of the model

Hypothesis 3 There is no Significant difference on between the respondents on impact of the wellness and extension education model on the health behaviors of adult learners in terms of hygiene, physical activity, and disease prevention

Table 9: One Way ANOVA summary on the Significant difference on between the respondents on impact of the wellness and extension education model on the health behaviors of adult learners in terms of hygiene, physical activity, and disease prevention

	Sum of Squares (SS)	df	Mean Square (MS)	F-value	Sig(p-)value
Between Groups	92.73 4	4	23.18	6.44	0.014
Within Groups	1712.22	475	3.60		
Total	**1804.95**				

The result from the ANOVA table reveals that the calculated F-val ue is 6.44, while the significance level (p-value) is 0.014. When we compare the p-value of 0.014 to the standard alpha level of 0.05, it is evident that 0.014 < 0.05, which means the difference among the groups is statistically significant. In comparing the calculated F-value (6.44) with the critical F-value from the table (which, for $df_1 = 4$ and $df_2 = 475$ at 0.05 level, is approximately 2.41), we find that the calculated F (3.22) is greater than the critical F (2.41). This comparison again confirms that a statistically significant difference exists among the group means. However, despite the statistical significance, the actual mean differences among the groups (not shown in detail here but assumed minimal) may be small, implying that the practical or educational significance is limited. In other words, the difference is statistically significant but may not be meaningful in real-world application.

Discussion of Findings

The outcome of the study has provided valuable insight into how stakeholders perceive the development and implementation of a community-based wellness education and extension model for health promotion within adult and non-formal education settings in Nigeria. Each research question offers crucial implications for practice, policy, and future curriculum integration.

The results revealed that a majority of adult education facilitators, wellness instructors, and extension workers strongly agreed that wellness education is crucial for promoting healthy lifestyles among adult learners. The high mean scores recorded across the items reflect a shared understanding that integrating wellness content — such as hygiene, nutrition, physical activity, mental health, and disease prevention — can enhance adult learners' overall well-being and learning capacity. These findings are consistent with earlier works by Omoniyi (2017), who, in a mixed-method study involving 210 adult learners in Ekiti State, affirmed that wellness instruction improved learner retention and productivity. Similarly, Uche and Alade (2020) noted in their qualitative research that wellness-centered literacy programs in community education centers helped reduce health ignorance and promoted social inclusion. The implication of this finding is that there is an existing readiness among stakeholders for wellness-oriented interventions in adult education. It underscores the need for an integrated model that is context-sensitive, culturally appropriate, and tailored to the unique health needs of rural adult learners.

The independent sample t-test and ANOVA analyses revealed significant variations in perceptions across gender and designation. Male respondents generally expressed more confidence in delivering wellness content, especially those with previous exposure to health extension programs. This aligns with Salihu (2018), who found that male facilitators were more likely to engage in physical health training sessions due to cultural factors and mobility freedom in rural northern Nigeria.

Moreover, differences emerged between facilitators and extension workers regarding delivery approaches. Extension workers preferred community outreach and demonstration methods, while facilitators leaned toward classroom-based wellness instruction. These variations suggest the need for a hybrid model that blends both formal and informal delivery mechanisms. This is corroborated by Eze and Abdulrahman (2019), whose work in Kogi and Kaduna States found that inter-agency collaboration between adult education centers and primary health care teams improved wellness education outcomes. The implication here is twofold: first, gender-responsive strategies must be ntegrated into the wellness education model to ensure inclusiveness; second, professional training and orientation should reflect the diverse roles and strengths of each group involved in adult learning.

Findings from the survey showed a strong agreement among respondents that institutional frameworks, availability of wellness materials, and supportive policies

significantly affect the implementation of wellness programs. This is in line with Adewuyi and Ojo (2021), who found that poor infrastructure and lack of health education curriculum limited the sustainability of health promotion efforts in adult education centers across Kwara State. Interestingly, even in the absence of robust structures, many facilitators expressed willingness to innovate and adapt community resources, such as local health workers and traditional institutions, to deliver health-related learning. This is supported by Okonkwo and Bamidele (2016), who emphasized the importance of utilizing existing social networks in rural communities to drive adult health education.

This finding underscores the urgency for policymakers to institutionalize wellness education as part of adult and non-formal education reforms. It also highlights the need to create enabling environments — through funding, curriculum review, and stakeholder training — for sustainable implementation.

Implications for Model Development

Collectively, these findings suggest that a community-based wellness education model should:

1. Integrate wellness themes into existing literacy and numeracy curricula.
2. Combine formal and informal instructional methods tailored to adult learners' contexts.
3. Address gender disparities in training, delivery, and participation.
4. Leverage extension workers and local health agents for community outreach.
5. Be supported by policy frameworks and institutional resources for implementation.

The uniform support among stakeholders and their contextual insights present a strong foundation for the development of a responsive, inclusive, and scalable wellness education model for adult learners across Nigeria.

Summary of Findings

1. Stakeholders perceived wellness education as highly relevant for adult and non-formal learners. They emphasized the importance of incorporating themes such as personal hygiene, nutrition, mental health, and preventive care into literacy and skill acquisition programs to enhance adult learners' health outcomes and educational experiences.
2. Differences in perception were observed based on gender and professional roles. Male facilitators and extension workers showed higher levels of confidence in wellness delivery compared to their female counterparts. Likewise, facilitators

preferred classroom delivery, while extension workers advocated for community-based outreach approaches.

3. Institutional and policy support emerged as a key enabler or barrier to the successful implementation of wellness education. Stakeholders affirmed that government policies, access to materials, and inter-agency collaboration significantly influence their willingness and capacity to deliver wellness education effectively.

Conclusion

This study concludes that developing a community-based wellness education and extension model is both timely and necessary for enhancing the health literacy and overall well-being of adult and non-formal learners in Nigeria. Stakeholders across various professional roles recognize the value of such an initiative and have highlighted contextual factors — including gender roles, delivery preferences, and institutional constraints — that must be considered in model design. A holistic, inclusive, and policy-backed framework is essential for sustainable health promotion within adult education settings.

Recommendations

1. Curriculum developers and policymakers should integrate wellness education modules into adult and non-formal education programs, focusing on key health areas like hygiene, nutrition, mental well-being, and preventive healthcare.
2. Capacity-building workshops should be organized for facilitators, instructors, and extension workers, with gender-sensitive strategies that promote confidence, participation, and culturally appropriate delivery methods across all groups.
3. Government and relevant agencies should provide strong institutional and policy backing, including provision of materials, technical support, and inter-sectoral collaboration, to promote the successful implementation of a wellness extension model in adult education centers.

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