# EFFECT OF HEALTH EDUCATION INTERVENTION PROGRAMME ON STUDENTS' ATTITUDES TOWARDS DRUGS ABUSE AT THE UNIVERSITY OF MAIDUGURI

**Jesse Kiyayo Galka;[1] Ashimiyu Taiwo Azeez;[1] Zahira Hamidu Galleo;[1] Mustapha Umar;[2] Mardiya Abdullahi Aza & Esther Ajiya**

[1]Department of Physical and Health Education, University of Maiduguri, Borno State

[2]Department of Education, Borno State University

[2]Department of Physical and Health Education, University of Maiduguri, Borno State

**Correspondence**: abdlazeeztaiwo11@gmail.com

## Abstract

Substance abuse among university students poses serious threats to academic success, mental health, and social well-being, particularly in Nigerian institutions where peer influence and limited awareness heighten vulnerability. This study adopted a repeated measures research design to evaluate the effect of an 8-week health education intervention on students' attitudes toward drug abuse in University of Maiduguri. Twenty-eight male students, aged 15–30 years, completed the programme, which consisted of weekly sessions covering the physical, psychological, social, economic, academic, and religious dimensions of substance abuse. Data were collected at baseline (week 1), mid-intervention (week 4), and post-intervention (week 8), and analyzed using repeated measures ANOVA with Scheffe's post-hoc tests. Findings revealed that Health Education Intervention Programme had a significant effect on students' attitudes towards drugs in the University of Maiduguri ($F(2, 25) = 23.655$, $p < .001$, $\eta p^2 = .21$). The greatest attitudinal changes occurred by Week 8, indicating enhanced awareness, responsible decision-making, and stronger negative perceptions of substance use. These results demonstrate that structured health education programmes can effectively improve students' attitudes toward drugs, with important implications for reducing substance abuse and promoting healthier lifestyles among undergraduates. . In conclusion, the study significantly improved the attitudes of students towards drugs by increasing awareness of substance abuse risks, fostering more responsible decision-making, promoting negative perceptions of drug use, and encouraging healthier behavioural choices. Therefore, the study recommends among others that Health education will be most effective when supported by a drug-free campus policy that is clearly communicated, consistently enforced, and complemented with accessible alternatives for socialization (e.g., sports, clubs, and creative activities.

**Keywords:** Health education, substance abuse, attitude change, drug prevention, intervention programme

## Introduction

Substance abuse among university students remains a significant public health concern globally, including in Nigeria, where university environments often constitute critical periods for experimentation and behavioral development (World Health Organization, 2018). The initiation and continuation of drug use during this stage have been shown to negatively affect students' academic performance, mental health, and social well-being, thereby compromising their long-term educational and professional outcomes (Adepoju, Olaoye, & Olowookere, 2020). In Nigeria, recent national estimates indicate that approximately 14.4% of individuals aged 15–64 equivalent to about 14.3 million people use psychoactive substances, with the highest prevalence recorded among young adults aged 18–25, the typical university age group (United Nations Office on Drugs and Crime, 2019). Within the North-East region, including Borno State where the University

of Maiduguri is located, the rising use of tramadol, cannabis, codeine-based cough syrups, and other illicit substances has become increasingly concerning (National Drug Law Enforcement Agency, 2023). This upward trend presents serious implications for academic success, campus safety, and students' physical and psychological health. As a result, higher-education institutions are progressively implementing health education intervention programmes aimed at reducing substance abuse and influencing students' attitudes toward drug use.

Health education interventions are structured approaches designed to inform, influence, and modify individual and community behaviors related to health risks, including drug use. Contemporary studies highlight that effective youth-focused interventions must integrate updated behavioral-change principles, culturally responsive content, and strategies tailored to the dynamic patterns of substance use among students (World Health Organization, 2022; Makanjuola, Obadeji, & Oginni, 2021). These interventions often include awareness campaigns, skills-building sessions, and evidence-based behavioral change techniques adapted to the sociocultural realities of the target population. Empirical evidence demonstrates that well-designed health education programmes significantly enhance students' knowledge of drug-related harms, correct misconceptions, and promote healthier attitudes toward abstinence and responsible behavior (Amoran & Akinlua, 2014). Consequently, such interventions contribute meaningfully to both primary prevention and support for students attempting to discontinue drug use.

The Theoretical foundation for this study is anchored on the Transtheoretical Model (TTM), which explains how individuals progress through a series of stagesprecontemplation, contemplation, preparation, action, and maintenance when attempting to change health-related behaviors. The TTM posits that students' attitudes toward drug use evolve as they move across these stages, and that targeted interventions can facilitate this movement by improving knowledge, enhancing perceived risks, increasing self-efficacy, and reinforcing motivation for behavior change. Health education programmes aligned with TTM principles can therefore shift students from permissive or neutral attitudes towards more negative and health-protective attitudes regarding drug use. This theoretical grounding provides a logical bridge to the next section, which explores the central role of attitudes in predicting substance-use behavior among university students.

Attitudes toward drugs are well-established determinants of substance-use patterns. Favorable attitudes and beliefs about drug use increase the likelihood of experimentation and continued use, whereas negative or risk-averse attitudes act as protective factors (Fjeldheim, Nöthling, Pretorius, Basson, Ganasen, Heneke, & Seedat, 2017). Accordingly, modifying students' perceptions and beliefs through targeted health education is a critical pathway for promoting healthier attitudes and reducing drug-use behaviors. Such attitudinal shifts are essential not only for prevention but also for encouraging students already engaged in substance use to seek support, adopt harm-reduction strategies, and pursue abstinence.

In the context of the University of Maiduguri, where socio-economic and cultural factors influence drug use patterns, tailored health education interventions are particularly pertinent. Previous studies have indicated that students' attitudes towards drugs are shaped by peer influence, lack of awareness, and perceived social acceptability (Ibrahim, Bukar, & Bello, 2019). Implementing comprehensive programmes within the university setting can address these factors by providing accurate information, promoting healthy norms, and fostering supportive environments for behavior change. The University of Maiduguri serves as a strong case study because it is located in North-East Nigeria, a region affected

by prolonged insecurity, displacement, and social stressors that increase vulnerability to substance abuse among youths (National Drug Law Enforcement Agency, 2023). Its large and diverse student population provides a suitable environment for evaluating the effectiveness of structured health education interventions, and the findings can inform national university policies by demonstrating how campus-based educational programmes can be integrated into Nigeria's higher education system to strengthen drug prevention strategies and guide evidence-based student wellness policies across tertiary institutions.

Despite the recognized importance of health education interventions, there is limited empirical data on their effectiveness in altering students' attitudes towards drugs specifically within Nigerian universities. Most studies have focused on prevalence rates rather than intervention outcomes (Adetunji & Akinbola, 2018). For instance, national studies such as United Nations Office on Drugs and Crime (2019), National Drug Law Enforcement Agency (2021, 2022, 2023), Yusuf (2020), Duru & Okafor (2021), Abiodun, Ojo, & Oladipo (2022), and Oshi, Nwokocha, & Chukwu (2021) have primarily documented prevalence patterns, types of substances used, and risk factors among students, without evaluating the outcomes of structured intervention programmes. These studies emphasize the burden of substance abuse but do not assess whether health education interventions can change students' attitudes, thereby highlighting a critical gap that this study addresses.

Therefore, assessing the impact of an eight-week health education intervention programme in University of Maiduguri is essential for understanding best practices in substance abuse prevention and attitude modification within similar university contexts. Health education interventions are a promising strategy for positively influencing students' attitudes towards drugs. Accordingly, the specific purposes of this study are to assess students' baseline attitudes toward drug use, implement an eight-week structured health education intervention on substance abuse, and evaluate changes in students' attitudes following the intervention. Drug abuse among students remains a critical public health challenge in Nigeria, particularly in regions affected by socio-economic instability and conflict, such as Borno State. According to the Nigerian Drug Law Enforcement Agency (NDLEA, 2020), Nigeria ranks among the top countries in Africa for drug use, with an estimated 14 million people aged 15-64 engaged in substance abuse activities. Specifically, in Borno State, the ongoing insurgency and displacement have exacerbated vulnerabilities among youth, increasing susceptibility to drug abuse as a coping mechanism (Nigerian Ministry of Health, 2019). Despite the implementation of various health education programs aimed at reducing drug use, there is limited empirical data on their effectiveness in changing students' attitudes toward drugs within this context. Understanding whether health education interventions can positively influence students' perceptions is vital for developing targeted strategies to curb drug abuse among the youth in Maiduguri. Therefore, this study seeks to evaluate the impact of a structured health education intervention on students' attitudes toward drug abuse in Maiduguri, Borno State. The study is guided by the following research question: Will the eight-week health education intervention programme on substance abuse have an effect on the students' attitudes towards drugs at the University of Maiduguri?

**Hypothesis**

There is no significant effect of an 8-week health education intervention programme on students' attitudes towards drug abuse at the University of Maiduguri.

## Methods

The study employed a repeated measures research design, a longitudinal approach involving multiple observations of participants over time, to examine the impact of an 8-week health education intervention on substance abuse among university students. This design allows each participant to serve as their own control, minimizing between-person variability and enhancing internal validity (Field, 2013; Hughes, 2019). Data were collected in three time points: baseline (Week 1), mid-intervention (Week 4), and post-intervention (Week 8), enabling the assessment of immediate effects and the progression of attitudinal changes. The study population consisted of students in University of Maiduguri identified as using or at risk of using substances, with 28 participants purposively selected to ensure accessibility and focus on those exhibiting substance-related behaviors. Inclusion criteria required registration as a student, current or at-risk substance use, and willingness to participate in all sessions, while students with severe health conditions or unwillingness to attend all sessions were excluded. Data were collected using the self-developed *Effect of 8-Week Health Education Intervention Programme on Substance Abuse among Students Questionnaire* (EHEIPSASQ), a 25-item instrument assessing health, social, economic, attitudinal, and behavioral aspects of substance abuse. The instrument was validated by experts for clarity and relevance, and reliability was established through a pilot study using the split-half method and Cronbach's alpha ($\alpha = 0.73$). The 8-week programme covered: Week 1: Introduction to substance abuse; Week 2: Health effects; Week 3: Economic effects; Week 4: Educational effects; Week 5: Religious and social effects; Week 6: Motivation and triggers; Week 7: Building resilience; Week 8: Societal perceptions and stigma. Sessions were held weekly in Yello Lecture Theatre, facilitated by the researcher with three trained student assistants, and used structured activities, handouts, and discussion to enhance participants' knowledge and attitudes toward drugs.

Data analysis focused on changes in students' attitudes toward drugs and was conducted using IBM SPSS Statistics version 22. Repeated Measures ANOVA assessed differences across the three phases, with Greenhouse-Geisser and Huynh-Feldt corrections applied to address potential violations of sphericity. Significant differences were further explored using Scheffé's post-hoc tests to identify specific phase comparisons, allowing clear interpretation of the intervention's progressive impact on students' attitudes toward substance abuse. Ethical approval was obtained from the Department of Physical and Health Education, University of Maiduguri, and informed consent was secured from all participants, with confidentiality and voluntary participation strictly maintained.

## Results

**Table 1 Demographic Characteristics of Participants** **n=28**

| Demographic Characteristics | | Frequency | Percent |
|---|---|---|---|
| Gender | Male | 28 | 100 |
| Age | 15 – 25 years | 5 | 17.9 |
| | 26 – 30 years | 23 | 82.1 |
| Marital Status | Single | 28 | 100 |

From Table 4.1, the demographic characteristics of the participants in the study include gender, age, and marital status of the students who volunteered to participate. All the 28 participants who completed the study were male, aged 30 years or below, with a significant majority (82.1%) falling within the age range of 26–30 years. This shows that most of the participants were young adults, a group commonly associated with involvement in substance abuse.

**$Ho_1$:** 8-week Health education intervention programme on substance abuse will not have significant effect on the attitudes of students towards drugs in University of Maiduguri.

**Table 2: Repeated Measures Analysis of Variance on 8-week Health Education Intervention Programme on Substance Abuse Effect on the Attitudes of Students Towards Drugs in University of Maiduguri**

**n=28**

| Source | | Sum Squares | ofDf | Mean Square | F | Sig. | ηp² |
|---|---|---|---|---|---|---|---|
| factor1 | Sphericity Assumed | 51.345 | 2 | 25.673 | 23.655 | .000 | 0.21 |
| | Greenhouse-Geisser | 51.345 | 1.844 | 27.849 | 23.655 | .000 | |
| | Huynh-Feldt | 51.345 | 1.997 | 25.712 | 23.655 | .000 | |
| | Lower-bound | 51.345 | 1.000 | 51.345 | 23.655 | .000 | |
| Error(factor) | Sphericity Assumed | 49.924 | 25 | 1.085 | | | |
| | Greenhouse-Geisser | 49.924 | 12.405 | 1.177 | | | |
| | Huynh-Feldt | 49.924 | 15.930 | 1.087 | | | |
| | Lower-bound | 49.924 | 23.000 | 2.171 | | | |

*=Significant at 8week; $\eta p^2 = 0.21$

The results in Table 2 present a repeated measures analysis of variance (ANOVA), which is suitable for evaluating the effect of a health education intervention across multiple time points. This analysis was conducted to assess the impact of an 8-week health education programme on substance abuse and its effect on students' attitudes towards drugs at the University of Maiduguri. The results revealed a statistically significant effect of the intervention over time, $F(2, 25) = 23.655$, $p < .001$, $\eta p^2 = 0.21$, based on the assumption of sphericity. To account for potential violations of the sphericity assumption, the Greenhouse-Geisser correction was applied, yielding $F(1.844, 12.405) = 23.655$, $p < .000$, confirming the robustness of the result. The Sum of Squares value of 51.345 represents the variability in students' attitudes attributable to the intervention, while the Mean Square value of 27.849 reflects the average variance explained across the phases of the programme. The large F-value indicates a strong effect of the intervention on changing students' attitudes toward drug use. Furthermore, the partial eta squared ($\eta p^2$) value of 0.21 represents a large effect size, meaning that approximately 21% of the variance in attitudes toward drugs can be explained by the intervention.

These findings demonstrate that the health education programme was highly effective in positively shaping students' perceptions and attitudes toward substance use. Since the p-value (< .000) is less than the significance level of 0.05, the null hypothesis ($Ho_4$) is rejected, indicating a significant impact of the intervention on students' drug-related attitudes.

**Table 3: Results of Scheffe's Post-hoc Tests on the Means of 8-week Health Education Intervention Programme on Substance Abuse Effect on the Attitudes of Students Towards Drugs in University of Maiduguri**

**n=28**

| (I) factor1 | (J) | Mean | Std. | Sig.[b] | 95% Confidence Interval |
|---|---|---|---|---|---|

| | factor1 | Difference (I-J) | Erro | | for Difference[b] Lower Bound | Upper Bound |
|---|---|---|---|---|---|---|
| Week1 | Week4 | -.213 | .319 | .512 | -.874 | .448 |
| | Week8 | -1.888* | .324 | .000 | -2.559 | -1.218 |
| Week4 | Week1 | .213 | .319 | .512 | -.448 | .874 |
| | Week8 | -1.675* | .253 | .000 | -2.199 | -1.151 |
| Week8 | Week1 | 1.888* | .324 | .000 | 1.218 | 2.559 |
| | Week4 | 1.675* | .253 | .000 | 1.151 | 2.199 |

The results in Table 3 present the findings of Scheffe's post-hoc tests conducted following the repeated measures analysis of variance (ANOVA) on the effects of the health education intervention programme on students' attitudes towards drugs at the University of Maiduguri. The significant mean differences indicate notable changes in attitudes between different time points, particularly between Week 1 and Week 8, where a mean difference of -1.888 ($p = .000$) demonstrates a significant improvement in attitudes towards drug use following the intervention. Similarly, comparisons from Week 4 to Week 8 show a significant mean difference of -1.675 ($p = .000$), suggesting that attitudes continued to improve as the programme progressed. In contrast, there were no significant differences between Week 1 and Week 4, with a mean difference of only -0.213 ($p = .512$), indicating minimal change during the initial phase. This pattern of results highlights the cumulative effectiveness of the 8-week health education programme, particularly from the early to the later phases, confirming the intervention's substantial and positive impact on students' attitudes towards substance abuse.

**Discussions**

The findings of this study demonstrate that structured, culturally relevant, and theory-driven health education interventions can significantly improve students' attitudes toward substance use. At baseline, many students in University of Maiduguri perceived substances such as tramadol, cannabis, and codeine-based syrups as socially acceptable or relatively harmless. These attitudes were influenced by peer pressure, limited awareness, and perceived social norms, consistent with the findings of Ibrahim, Bello, and Musa (2019). This highlights the urgent need for targeted interventions to correct misconceptions and foster healthier perceptions among university students before experimentation develops into habitual use.

Following the eight-week intervention, participants exhibited marked improvements in attitudes toward substance use, with a notable decline in the perception of drugs as acceptable or beneficial. Students increasingly recognized the negative health, social, and economic consequences associated with substance abuse. The programme successfully increased knowledge and challenged misconceptions, reinforcing the link between awareness and behavioral outcomes. These results are in line with Eze, Okonkwo, and Nwankwo (2022), who found that life skills–based health education strengthened resilience and reduced favorable attitudes toward substance use, and Adeboye, Olayinka, and Akinwale (2023), who reported that structured interventions reshape attitudes while mitigating broader social and economic risks.

The observed attitude changes can be understood through the Transtheoretical Model, which frames behavior change as a progression through stages. Participants initially in the pre-contemplation stage became aware of the harms of substance use, moved into contemplation, and progressed to preparation and action stages, internalizing

healthier attitudes and committing to avoid drugs. By providing culturally appropriate, interactive sessions that emphasized personal responsibility, future aspirations, and communal values, the intervention reinforced participants' rejection of favorable perceptions of substance abuse. These findings underscore the critical role of theory-driven, culturally sensitive health education in promoting positive attitudes, which is a key determinant of substance use behavior among university students.

**Conclusion**

The findings of this study clearly demonstrate that health education intervention programmes exert a significant and positive effect on students' attitudes toward drug abuse in University of Maiduguri. The repeated-measures ANOVA and post hoc analysis revealed that while no substantial attitudinal change occurred between the baseline and mid-point (Week 1 and Week 4), a marked and sustained improvement emerged by Week 8, underscoring the cumulative impact of continuous, structured health education. These results confirm that targeted and context-specific health education not only enhances students' knowledge but also reshapes their perceptions and beliefs about drugs, thereby reducing their susceptibility to substance abuse. The educational and policy implications of these findings highlight the need for universities to institutionalize structured health education programmes within student support and wellness systems, integrate evidence-based drug education into orientation and general studies courses, and strengthen policy frameworks that promote continuous campus-wide drug education. Establishing peer-led awareness initiatives and enhancing collaboration among health educators, counsellors, and campus security can further reinforce positive student attitudes. At the broader level, state and national education authorities should develop standardized, culturally appropriate drug education curricula for tertiary institutions across Nigeria. Despite its contributions, the study has limitations: the sample was restricted to one institution, which may affect generalizability; the eight-week duration may not fully reflect long-term attitudinal or behavioural changes; and self-reported data may be prone to social desirability bias. Future research should therefore involve multiple institutions, incorporate longer follow-up periods, and employ mixed-method designs to provide deeper insights into students' behavioural transitions related to substance use.

## Recommendations

Based on the findings of the study on the effect of health education intervention programmes on students' attitudes towards drug abuse in the University of Maiduguri, the following recommendations were made:

1. The University of Maiduguri should integrate health education on drug and substance abuse into its curriculum through compulsory general studies courses, orientation programmes, and regular sensitization activities. This will ensure continuous exposure of students to preventive information and promote positive attitudes towards avoiding drug abuse.
2. The University should establish peer-led health education groups within faculties, departments, and student hostels. Trained peer educators and student ambassadors can serve as role models, facilitate awareness programmes, and provide peer-to-peer support aimed at discouraging drug abuse and promoting healthy lifestyle choices among students.
3. University management should strengthen and consistently enforce drug-free campus policies while providing adequate support services such as counselling, mentorship programmes, sports, recreational activities, and student clubs. Creating a supportive and engaging campus environment will reinforce the positive attitudes developed

through health education interventions and reduce the likelihood of drug abuse among students.

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