



Influence of Health Education on Prevention of Drug and Substance Abuse among Undergraduates of Nnamdi Azikiwe University, Awka, Nigeria

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ABSTRACT

Background: Drug and substance abuse among university students is a major public health and educational concern, with adverse physical, psychological, social, and academic consequences. Although students may be aware of these risks, knowledge alone may not translate into preventive behaviour or effective peer intervention. Health education can therefore play an important role in promoting awareness, shaping attitudes, and encouraging preventive practices.

Objective: To examine the role of health education in disseminating information about the dangers of drug and substance abuse among undergraduates of Nnamdi Azikiwe University, Awka (UNIZIK).

Method: The study adopted a survey research design involving a population of 30,917 undergraduates at UNIZIK. A sample of 390 respondents was selected through multistage sampling across faculties, departments, and academic levels. Data were collected using a structured questionnaire containing open- and closed-ended items. All 390 distributed questionnaires were retrieved, yielding a 100% response rate. Data were analysed using frequencies and percentages.

Results: The findings indicated high awareness of the physical, psychological, social, and academic consequences of drug and substance abuse among the respondents. Health education was perceived to positively influence students' attitudes towards prevention and discourage substance use. Health talks, seminars, workshops, peer education, social media messages, posters, and campus campaigns were identified as useful communication strategies. However, some students expressed reluctance to discourage friends and peers from substance use, highlighting the need to strengthen peer-support systems, counselling, and interpersonal communication skills.

Conclusion: Health education is an important strategy for raising awareness, promoting preventive attitudes, and addressing drug and substance abuse among UNIZIK undergraduates. However, awareness and perceived self-efficacy do not necessarily translate into the confidence or willingness to intervene when peers engage in substance use.

Unique Contribution: The study provides context-specific insights into students' perceptions of conventional, peer-led, and multimedia health education strategies for drug and substance abuse prevention. It also highlights the gap between individual awareness and willingness to support peers in avoiding substance use.

Key Recommendation: UNIZIK should institutionalise integrated drug and substance abuse prevention programmes involving regular seminars, peer education, social media campaigns, posters, counselling, confidential referral mechanisms, and student-led drug prevention clubs. These programmes should incorporate practical training in refusal skills, interpersonal communication, stress management, and peer support.

Keywords: health education, drug and substance abuse, awareness, undergraduates.



INTRODUCTION

Afolabi et al., (2025) clearly identified drug and substance abuse as a serious public health problem particularly with youth. Students in Universities, therefore, as mentioned by Eke et al. (2022), are at a special risk because they are dealing with the challenges arising from the academic life as well as newfound independence and changing social circles substance use disorders can adversely affect health, psychological well-being and social functioning, while also creating stress, stigma, social isolation and disruption within family relationships (Volkow et al., 2023; Monari *et al.*, 2024). The most severe form of substance use disorder, addiction is now recognized as a chronic brain disease that results from a combination of biological and social factors (National Institute of Drug Abuse [NIDA], 2020).

The effects of drug abuse among young adults are far-reaching. It has a significant impact on mental and physical well-being, academic achievement, and the broader goals of community and national development, globally (World Health Organisation [WHO]; 2023). Health education is noted as the best way to address this problem as it equips people with the knowledge and skills for enlightened and healthy decisions (Centers for Disease Control [CDC], 2021). Additionally, preventive education in universities is crucial, as it can help to minimize the risks and damage in the short and long term. Various institutions have implemented preventative and intervention programmes to reduce or prevent negative consequences of substance use by students, such as academic failure, extended time in school, dropping out or getting involved in criminal behavior (Mekonen et al., 2020).

Substance abuse has become a growing concern among university students in Nigeria. The use of substances such as marijuana, Tramadol, alcohol, codeine-based syrups, Colorado, Loud, Monkey Tail, Rohypnol, Benzo, inhalants, Skunk, and cigarettes has reportedly increased among students in tertiary institutions (United Nations Office on Drugs and Crime [UNODC], 2020). These trends are confirmed by both formal records and anecdotal data, which emphasize troubling implications such as poor academic performance, health concerns, social misconduct, and even crime Touitou et al. (2025). Volkow et al., (2023) noted that the effects of pharmaceutical and psychotropic substances can be harmful to health and mental well-being and that these substances can negatively affect family and social relationships. The following facts highlight the need to implement more specific and long-term interventions, especially in the fields of education, awareness and behavioural change (Touitou et al., 2025).

These troubling trends underscore the need to develop lasting, substantive solutions that tackle the symptoms of substance misuse and underlying drivers. While enforcing regulations through punitive measures may have a purpose, they alone are not adequate to tackle the actual reasons individuals turn to drugs. We need a change of thinking, a new way of thinking where prevention is emphasized through education. Equipping kids with the correct information and life skills has proven to be one of the most effective approaches to prevent substance abuse (Gore et al., 2020). In the academic environment of UNIZIK, such initiatives may manifest in different ways, such as awareness campaigns, interactive seminars, peer-led discussions, digital outreach, and incorporating health issues into the curriculum. Most significantly, when students are actively involved in the creation and administration of these programmes, they are more likely to participate, feel responsible for the programme, and ultimately change their behaviour.



Substance misuse continues to be a major cause of sickness and early death among young people around the world (Hedegaard et al., 2020). Any intervention that is at all going to make a difference must take into account some cultural and contextual factors. UNIZIK has diverse student population in terms of ethnicity and socio-economic status. Programmes that acknowledge and embrace this diversity are significantly more effective and inclusive. When health messages are culturally relevant, they are more likely to resonate with students' everyday experiences, beliefs, and values, thereby increasing their engagement with the message.

Adolescence and early adulthood are critical periods of development for biological, psychological and social growth. This is also a period when young people are at the greatest risk of the potential negative effects of drug use, such as mental health issues (Nath et al., 2022). Support needs in this period thus go beyond classroom lectures and require a high and sustained commitment from the institution itself. Hence, it is important to find out if health education programmes in Nnamdi Azikiwe University adequately deliver the risks of substance use to students and the extent to which students understand the messages, and the factors that may hinder the effectiveness of such messages. Hence, this study tries to examine the role of health education in disseminating the risks of drug and substance abuse among UNIZIK undergraduates.

RESEARCH OBJECTIVES

1. To assess the level of awareness among UNIZIK undergraduates about the dangers of drug and substance abuse.
2. To evaluate the impact of health education on the attitudes of UNIZIK undergraduates towards drug and substance abuse.
3. To identify effective health education strategies for communicating the dangers of drug and substance abuse among UNIZIK undergraduates.
4. To determine the extent to which health education can lead to behavioural change among UNIZIK undergraduates in relation to drug and substance abuse.

REVIEW OF CONCEPTS

Health education

The World Health Organization (2020) defines health education as “a process that educates, motivates and empowers individuals to practice health and maintain healthy lifestyles.” The emphasis is on its active involvement not only in raising awareness, but in bringing about real and lasting change in the way people live. Health education occurs in a variety of settings, such as within school environments to support students' growth and development, in workplaces to improve employee health and productivity, and in communities to help bridge the knowledge gap about health, particularly in health-disadvantaged communities. Health education supports healthier personal and community habits, reduces the risk of disease, improves health and can even save health care dollars. Indeed, a recent study has indicated that community involvement is a particularly effective approach to enhancing health literacy and outcomes (Nutbeam & Muscat, 2021).



The current literature also focuses on the importance of health education for health literacy and behaviour change. Stock (2022) stated that health education and health promotion are based on evidence and works on the individual, organizational, community and societal level to improve health and prevent disease.

The special thing about health education is that it addresses people, not merely what they should do, but asks them to do it. It invites people to consider their own personal behaviors and unhealthy social norms, and to seek more positive options. This is a participatory method that enables individuals to feel more at the helm of their own health. Further, health education is increasingly interactive and effective, as digital tools have been introduced and insights gained from behavioural science. (WHO, 2021).

Drug and Substance Abuse

Drug and substance abuse is defined as the inappropriate, harmful or excessive use of psychoactive substances such as alcohol, tobacco, prescription drugs and illegal drugs that has a negative impact on an individual's physical, mental, social or economic functioning (World Health Organization [WHO], 2023). It is using substances beyond their prescribed therapeutic limits, out of a doctor's recommended regimen or for non-medical purposes, with a potential for dependence and addiction (United Nations Office on Drugs and Crime [UNODC] 2023).

Peer pressure, curiosity, stress, family issues, poverty, and drugs easily accessible all contribute to substance abuse (UNODC, 2023). These chemicals can disrupt brain development, which can impact judgment, behavior, mood, and decision-making (Centers for Disease Control and Prevention [CDC], 2024).

Drug and substance abuse can have far-reaching consequences. Physically, it can bring about organ injury, overdose, and chronic ailments. Psychologically it is linked to depression, anxiety and other mental health problems. On a social level, it can cause poor academic results, family conflict, crime and decreased productivity (WHO, 2023; CDC, 2024).

EMPIRICAL REVIEW

Onyenekwe and Onyenekwe (2024) conducted a study titled *Awareness and Perception of Undergraduate Students on Hazards Associated with Substance Abuse among Students* to investigate the level of awareness and perception of undergraduate students regarding the health risks associated with drug and substance abuse. Students of Nnamdi Azikiwe University, Awka formed the population of the study. A structured questionnaire was distributed through social media platforms, including Facebook and WhatsApp groups, to collect data and simultaneously serve as a medium for health education advocacy. A total of 108 students participated in the study. The findings revealed that the most commonly abused substances among students were Indian hemp (29.6%), methamphetamine (25.9%), cocaine (15.7%), and marijuana (11.1%). Furthermore, respondents identified several consequences of substance abuse, including increased drug cravings (45.4%), untidy physical appearance (19.4%), and emotional instability (11.1%). Notably, 73.1% of the participants acknowledged a strong relationship between substance abuse and increased vulnerability to infections. However, despite this high level of



awareness, only 30.6% were aware of available rehabilitation centres for substance abuse treatment. The study further revealed that approximately 95% of the respondents supported the introduction of a formal drug abuse awareness curriculum in universities. Consequently, the researchers concluded that health education should extend beyond awareness creation and be integrated into academic curricula to facilitate behavioural change and improve access to support services.

Similarly, Olanrewaju et al. (2022), in their study titled *An Assessment of Drug and Substance Abuse Prevalence: A Cross-Sectional Study among Undergraduates in Selected Southwestern Universities in Nigeria*, examined the prevalence of substance abuse and students' awareness of its associated risks. The study involved 400 undergraduate students from four universities in Southwestern Nigeria and employed a structured questionnaire for data collection. The results showed that 45.7% of the respondents engaged in substance abuse. Alcohol emerged as the most abused substance (61.5%), followed by cigarettes (54.5%), tramadol (35.0%), codeine-containing cough syrup (33.0%), shisha (30.5%), and cannabis (25.5%). The primary reasons for substance use included the desire to experience euphoria (81.3%), reduce depression and nervousness (65.0%), forget personal problems (65.0%), and improve mood (64.5%). Despite the high prevalence of substance abuse, 94.6% of the respondents demonstrated awareness of the associated risks. Therefore, the study concluded that substance abuse remains a major concern among university students and recommended comprehensive educational interventions to address both awareness and the underlying factors contributing to substance use.

In another related study, Ofili et al. (2021) investigated the relationship between knowledge of substance abuse and students' attitudes towards its use in a study titled *Knowledge and Attitude to Substance Abuse among Undergraduate Students at a Nigerian University*. The study was conducted among 120 undergraduate students of Delta State University, Abraka, using a structured questionnaire. The findings revealed that 92% of the respondents possessed adequate knowledge of substance abuse and its harmful effects. Nevertheless, 24% of the participants still exhibited negative or indifferent attitudes towards substance use. Commonly identified substances included alcohol, cigarettes, codeine, tramadol, and cocaine. Moreover, a chi-square analysis showed no statistically significant relationship between students' knowledge and their attitudes towards substance abuse ($\chi^2 = 1.21$, $p > .05$). This finding suggests that awareness alone may not be sufficient to influence attitudes or behavioural outcomes. Consequently, the researchers advocated for comprehensive interventions involving counselling services, emotional support systems, and peer-led programmes aimed at addressing the root causes of substance abuse among students.

Furthermore, Durowade et al. (2021) conducted a study titled *Substance Use: Prevalence, Pattern and Risk Factors among Undergraduate Students in a Tertiary Institution in Southwest Nigeria*. The study employed a cross-sectional survey design involving 416 undergraduate students of Afe Babalola University, Ekiti State. The findings indicated that 71.9% of the students had used at least one psychoactive substance. Alcohol (32.0%) and over-the-counter drugs (29.9%) were identified as the most commonly used substances. The study further



established significant associations between substance use and gender, academic level, and family background. Major reasons for substance use included curiosity (37.5%), peer pressure (31.8%), and academic stress (28.4%). Additionally, maternal occupation and educational attainment emerged as significant predictors of substance use. Based on these findings, the researchers recommended intensified health education programmes, counselling services, and stricter regulation of substance availability on university campuses to reduce substance abuse among students.

Likewise, Njoku and Onyewuchi (2021) carried out a study titled *Surveying the Level of Knowledge, Awareness and Health-Related Risk of Substance Abuse among Students in University of Port Harcourt's Host Communities*. The study involved 150 participants drawn from secondary schools, undergraduate, and postgraduate populations residing in the Aluu community. The results revealed that 98.67% of the participants had knowledge of substance abuse, while 96.67% were aware of its health and social consequences. Memory loss (74.67%) and sleeping and eating disorders (67.33%) were among the most frequently identified health risks. Interestingly, despite this high level of awareness, alcohol remained the most commonly abused substance, with 94% of respondents reporting its use. The study identified peer influence, environmental factors, and family-related issues as major contributors to substance abuse. Consequently, the authors emphasized that interventions should address not only awareness but also the social and environmental determinants of substance abuse among students.

More recently, Nehemiah (2024) examined the effects of drug abuse on students' academic performance in a study titled *Drug Use/Abuse and Its Effect on the Academic Performance of Undergraduate Students in Imo State University, Owerri, Imo State, Nigeria*. Anchored on the Social Cognitive Theory, the study adopted a descriptive survey design involving 380 undergraduate students. The findings established a significant relationship between substance abuse and poor academic performance. Specifically, drug use negatively affected students' reading culture, examination performance, and concentration during learning activities. Many respondents reported poor study habits, irregular class attendance, and reduced academic engagement following substance use. The study further identified peer pressure, emotional instability, stress, curiosity, social acceptance, and easy access to drugs as major factors encouraging substance abuse. Consequently, the study concluded that substance abuse poses a serious threat to academic achievement and recommended targeted educational and behavioural interventions to reduce its prevalence among undergraduates.

THEORETICAL FRAMEWORK

The nub of the research is further explained using the Health Belief Model (HBM) and the Social learning theory (SLT).

Health Belief Model (HBM)

Irwin Rosenstock developed the Health Belief Model in the 1950s to explain health related behaviours. The theory suggests that people will engage in health-promoting behaviours when they feel vulnerable to a health threat, see the seriousness of the health threat, understand the value of preventive behaviours and think they can overcome the barriers to change.



The model is relevant for this study because drug and substance abuse education programmes enable students to gain a knowledge of the risks of drug and substance abuse, and this awareness inspires good behaviours. Students have been encouraged to abstain from the use of drugs and alcohol and lead healthier lives through seminars, campaigns and counselling. The theory also provides an explanation of the role of health education in shaping students' perception, attitude and behaviour towards drug and substance abuse. It facilitates the focus of the study on the awareness creation and behavioural change of the UNIZIK undergraduates.

Social Learning theory (SLT)

The Social Learning Theory was propounded by Albert Bandura in 1977. The theory is that people observe, imitate and interact with people in their social surroundings to learn behaviours. Peer influence, family influence, role models, and media exposure, however, all have an impact on behaviour. This theory also has relevance to this study, as the influence of peer groups and social interactions is a factor in many students' decisions on substance use during their undergraduate years. Health education programmes can help students develop positive role models and anti-drug messages that may motivate them to engage in healthy behaviors and fight the temptations of drugs. Social Learning Theory plays a role in explaining the role of health education in influencing attitudes and behaviours through observation, peer education, and behavioural modelling. It therefore forms a good platform to appreciate the way communication strategies can discourage undergraduates at the UNIZIK from indulging in substance abuse.

METHODOLOGY

The research design adopted for this study was survey. The undergraduate students of Nnamdi Azikiwe University Awka were purposively selected for the population of this study. The student population of the school is about 30,917. (Source: Academic Planning Unit 2024/2025). A sample of 390 was drawn from the study population of 30,917 using Yamane's formula for calculating sample size: $n = N / 1 + N(e)^2$. The multistage sampling procedure was used to select study units across the faculties, departments and academic levels. The first stage involved the selection of faculties from Nnamdi Azikiwe University. The Faculty of Arts and Humanities, Social Sciences, Faculty of Education and Management Sciences were randomly selected. The third stage saw the selection of departments. The department of Modern European Languages and the department of Religion and Human Relations were randomly selected from the Faculty of Arts and Humanities. For the Faculty of Social Sciences, the Department of Economics and Mass Communication were randomly selected. The Department of Education Management and Policy and the Department of Technology and Vocational Education were randomly selected from the Faculty of Education. Also, for the Faculty of management, the department of Business Administration and Marketing were randomly selected.

The fourth stage saw the selection of levels of study which was randomly done. For the department of Modern European Languages, levels 300 and 200 were randomly selected. For the department of Religion and Human Relation, levels 400 and 100 were randomly selected. For the department of Economics, levels 300 and 400 were randomly selected. For the department of Mass Communication, levels 300 and 200 were randomly selected. For the department of



Education Management and Policy, levels 100 and 300 were randomly selected. For the department of Technology and Vocational Education levels 400 and 100 were randomly selected. For the Department of Business Administration, levels 100 and 200 were randomly selected. For the Department of Marketing, levels 200 and 300 were randomly selected.

Data Presentation

The questionnaire was the research instrument used for the collection of data. The questionnaire consisted of questions which were constructed in a way that the first stage sought the demography (personal data) of the respondents while others were related to the subject matter of study. Both open and closed ended questions were used. Data for this study were collected within two months. The questionnaire was personally distributed and copies collected from the respondents; as a result, the return rate was 100%.

Table 1: Awareness and the Impact of Health Education on Drug and Substance Abuse among UNIZIK Undergraduates

Options	Strongly Agree (SA)	Agree (A)	Disagree (D)	Strongly Disagree (SD)	Total
I am aware that drug and substance abuse can cause serious physical, psychological, and social problems among undergraduates.	N=150 38.5%	N=132 33.8%	N=90 23.1%	N=18 4.6%	390 (100%)
I am aware that drug and substance abuse can lead to addiction, poor academic performance, violence, and other harmful consequences among students.	N=222 57%	N=100 25.6%	N=8 2.1%	N=60 15.3%	390 (100%)
Health education has influenced my attitude and made me less likely to engage in drug and substance abuse.	N=100 25.6%	N=191 49.1%	N=60 15.3%	N=39 10%	390 (100%)
Health education programmes have encouraged me to discourage my friends and colleagues from engaging in drug and substance abuse.	N=85 21.8%	N=120 30.8%	N=100 25.6%	N=85 21.8%	390 (100%)

The outcomes shown in table 1 indicate that drug and substance addiction has a strong negative impact on the under-graduate students. While 82.6% of respondents acknowledged that substance misuse is linked to addiction, poor academic performance, aggression, and other negative effects, the majority of respondents (72.3%) agreed that substance abuse can lead to serious physical, psychological, and social issues. This suggests students have some knowledge of the different risks associated with substance use. Additionally, respondents' opinions seemed to be positively impacted by health education. Increased knowledge and behavioural intentions may also be a factor in preventing drug and substance misuse, with 74.7% of respondents reporting that health education decreased their likelihood of drug and substance misuse. The effects of health education on the promotion of peer intervention, however, were not so clear cut.



Fewer than half (51.0%) of respondents reported that health education has prompted them to discourage their friends and coworkers from using drugs. This almost equal proportion suggests that although pupils might have information about the risks of substance use, there may be few pupils who don't want to intervene in the behaviours of their peer group. Thus, peer support, communication and student-led preventative programs should be included in health education programs along with awareness building.

Table 2: Effective Health Education Strategies and Behavioural Change among UNIZIK Undergraduates Regarding Drug and Substance Abuse

Options	Strongly Agree (SA)	Agree (A)	Disagree (D)	Strongly Disagree (SD)	Total
Regular health talks, seminars, and workshops in the university can effectively increase students' awareness of the dangers of drug and substance abuse.	N =212 (54%)	N =100 (26%)	N= 70 (18%)	N = 8 (2.0%)	390 (100%)
Peer education programmes are effective because students may be more willing to listen to fellow students discuss the risks of drug and substance abuse.	N =142 (36.5%)	N =190 (48.7%)	N =30 (7.6%)	N =28 (7.2%)	390 (100%)
Health education has strengthened my ability to resist peer pressure and refuse drugs or substances when offered.	N = 305 (78.2%)	N = 38 (9.7%)	N =30 (7.7%)	N = 17 (4.4%)	390 (100%)
Health education messages delivered through social media, posters, and campus campaigns effectively inform students about the consequences of drug and substance abuse.	N =284 (72.8%)	N =82 (21.0%)	N =10 (2.6%)	N =14 (3.6%)	390 (100%)

The results of the respondents' perception on the effectiveness of the health education strategies in influencing awareness and behaviour towards drugs and Substance abuse among the UNIZIK undergraduates are summarized in table 2. Generally high levels of agreement are revealed across all four items suggesting that health education is as an important strategy for prevention. The table shows that health education strategies were generally perceived as highly effective in promoting awareness and positive behavioural responses toward drug and substance abuse among UNIZIK undergraduates. All the items recorded mean scores above the 2.50 criterion mean, with an overall mean of 3.43, indicating a strong positive assessment of the strategies. Social media, posters and campus campaigns received the highest rating ($M = 3.63$), closely followed by the ability of health education to strengthen resistance to peer pressure and refusal of drugs ($M = 3.62$). Regular health talks, seminars and workshops were also positively rated ($M = 3.32$), while peer education remained effective despite recording the comparatively lowest mean ($M = 3.14$). Therefore, the findings suggest that health education is valuable not only for increasing students' awareness but also for strengthening preventive behavioural skills.



DISCUSSION

The findings indicate that health education plays an important role in increasing students' awareness of the physical, psychological, social and academic consequences of drug and substance abuse and in encouraging preventive intentions. This finding corroborates with Onyenekwe and Onyenekwe (2024), Olanrewaju et al. (2022), Ofili et al. (2021), and Njoku and Onyewuchi (2021), who similarly reported high levels of awareness of substance-abuse risks among Nigerian students. However, the comparatively weaker willingness of respondents to discourage their peers suggests that increased awareness does not always translate into preventive action. This gap may be linked to factors such as peer pressure, fear of rejection, stress and social acceptance, which were also identified by Durowade et al. (2021) and Nehemiah (2024).

The findings support the Health Belief Model (HBM) because awareness of the harmful consequences of substance abuse reflects perceived severity, while avoidance following health education reflects the perceived benefits of preventive action. Health education strategies were positively rated overall ($M = 3.43$), with social media, posters and campus campaigns ($M = 3.63$) and resistance to peer pressure and drug refusal ($M = 3.62$) receiving the strongest ratings. This supports earlier recommendations for comprehensive educational and behavioural interventions.

The results also align with Social Learning Theory (SLT), as peer education and repeated exposure to preventive messages can influence behaviour through observation, interaction and reinforcement. The study extends existing knowledge by showing that among UNIZIK undergraduates, awareness, communication strategies and behavioural resistance are related but distinct outcomes; therefore, effective health education should combine risk awareness, multimedia communication, peer involvement and practical refusal skills.

CONCLUSION

Based on the above findings, the study concludes that health education to the UNIZIK undergraduates is significant and helpful in improving their awareness about the dangers and effects of drug and substance abuse. Peer education, regular health talks and multimedia campaigns were identified as proven methods to encourage pro-prevention values and to decrease the risk for substance use among students. But, for some students, the lack of encouragement from their peers is an indication that awareness is not necessarily followed by committed peer intervention. Thus, there is a need for the university to greatly support the peer-support systems, student-led campaigns, counselling services, and effective communication skills to ensure that positive behavioural changes are maintained.



RECOMMENDATIONS

1. UNIZIK should organise regular awareness programmes through seminars, workshops, orientation talks and campus media on the dangers of drug and substance abuse.
2. Health education programmes should address peer pressure, misconceptions and attitudes toward substance use, using health professionals, counsellors and trusted student leaders.
3. The university should combine peer education, social media, posters, classroom discussions and student activities to deliver clear and relatable anti-drug messages.
4. UNIZIK should strengthen counselling, peer-support and anti-drug clubs, with emphasis on refusal skills, decision-making and helping peers avoid substance abuse.

Ethical Clearance

Ethical consent was sought and gained from the people involved in this investigation. They were told that this was a learning activity only and it was not compulsory for them.

Acknowledgements

We sincerely appreciate the undergraduate students of Nnamdi Azikiwe University, Awka, for their valuable cooperation and support during the data collection process. We also extend our gratitude to the staff of the University and the Prof. Kenneth Dike Digital Library for their assistance, cooperation, and invaluable support throughout the study.

Sources of Funding

The study was not funded.

Conflict of Interest

The authors have no commercial or financial interest or bias to declare.

Authors' Contributions

Obi Evelyn Chinwe was the originator of the study, design, Okoli Ogechukwu and Moneke Amaka Juliet performed the data collation, while Ono Gloria Nneke and Chiazor Chiaghana conducted the data analysis and interpretation, respectively. All authors have critically reviewed and approved the final draft, and are responsible for the content and similarity index of the manuscript.

Data Availability Statement

Data used to reach conclusions for this study are available on request.

Citation

Obi, E. C., Ono, G. N., Chiaghana, C. A., Okoli, O. N., & Moneke, A. J., (2026). Influence of health education on prevention of drug and substance abuse among undergraduates of Nnamdi Azikiwe University, Awka, Nigeria. *International Journal of Sub-Saharan African Research*, 4(3), 155-168. <https://doi:10.5281/zenodo.22974193>



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