

Exploring the Impacts of Helper-seekers' Knowledge, Belief, and Attitude on the Choice of Treatment for Substance Use Disorder

NWAORU, C. R.¹, ILOMA, D. O.², IJERE, I. N.³

1 | Psychiatry Department, Federal Medical Centre, Umuahia, Abia State, Nigeria

2 | Topfaith University, Mkpatak, Akwa Ibom State, Nigeria

3 | Department of Public Health, Syracuse University, USA

Citation | Nwaoru, C. R., Iloma, D. O. & Ijere, I. N. (2025). Exploring the Impacts of Helper-seekers' Knowledge, Belief, and Attitude on the Choice of Treatment for Substance Use Disorder. *Adiktologie*, 25(3), 123–130.

BACKGROUND: Recently, Abia State—like many other states in Nigeria—has experienced a growing number of deaths related to substance use, leading to increased cases of substance use disorders and comorbidities. Family members and relatives often seek treatment for affected individuals, some of whom may lack insight into their condition. However, their level of knowledge, beliefs, and attitudes toward substance use can significantly influence their treatment choices when a family member is affected. **AIM:** This study investigated people's knowledge, beliefs, and attitudes regarding substance use and how these factors affect their treatment decisions. **METHOD:** A purposive sampling technique was used to recruit 1,200 participants from a cross-sectional survey across three Local Government Areas (LGAs) in Abia State. The 35-item *Knowledge, Beliefs, and Attitude Toward Treatment Questionnaire (KBATQ)* was used to measure the study variables. Three hypotheses were formulated, and data were analyzed using IBM SPSS version 23. **RESULTS:** Descriptive results revealed that a high proportion of participants (up to 53.7%) had poor knowledge of drug use disorders, highlighting the

need for medical and therapeutic intervention. Multiple regression analyses indicated that good knowledge, positive beliefs, and favorable attitudes toward drug use as a disorder significantly predicted the use of evidence-based treatment options among relatives of drug users ($F(3,1199) = 177.23, p < 0.05$). The study also revealed limited availability of rehabilitation centers in the state.

CONCLUSION & RECOMMENDATIONS: Based on these findings, we recommend that the Abia State government urgently intensify drug use sensitization programs and establish more rehabilitation centers. Professionals such as psychiatrists, clinical psychologists, and those trained in the Universal Treatment Curriculum (UTC) should be employed to provide evidence-based care. Furthermore, relevant policies and interventions should address underlying sociocultural issues—including stigma, lack of awareness, and cultural acceptance of substance use—to enhance the effectiveness of interventions. Healthcare professionals, policymakers, and researchers have a crucial role to play in implementing these recommendations and improving substance use outcomes in Abia State.

Keywords | Attitude – Belief – Knowledge - Treatment Choice – Rehabilitation – Substance Use Disorder

Submitted | March 1, 2025

Accepted | October 10, 2025

Grant affiliation | none

Corresponding author | Ignatius Nnamdi Ijere, Department of Public Health, Syracuse University, USA,

inijere@syrru.edu

1 INTRODUCTION

Drug use has escalated into a critical global issue, demanding urgent attention from researchers, policymakers, and stakeholders. This is not a localized concern—as even Abia State, Nigeria, continues to grapple with its repercussions. The widespread misuse of drugs among adolescents and youths has become akin to a spreading wildfire, affecting not only individuals but also their families in profound and often devastating ways. Addressing this global crisis requires immediate, evidence-based, and coordinated action.

Drug abuse among the younger generation, particularly Generation Z (Gen Z), has become a grave concern, with adolescents and young adults being the most affected. The increasing prevalence of drug misuse is evident in the growing number of people using substances and in the viral online videos of youth exhibiting symptoms of intoxication or addiction. This rise may be attributed to limited awareness of the adverse effects of drugs on brain chemistry and behavior. Often, users rely on the immediate gratification that drugs provide as a compensatory mechanism for managing stress or depression (Aalsam et al., 2023).

Abikoye (2015) observed that substance abuse has become a major public health concern due to its association with reduced quality of life, morbidity, and mortality. Substance use disorders impose a heavy toll—resulting in personal suffering, family burden, and long-term losses in productivity.

According to the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5), an individual may be diagnosed with a substance use disorder when their use of drugs interferes with essential life functions such as parenting, employment, or intimate relationships, despite ongoing negative consequences. The disorder is characterized by persistent use despite efforts to stop, tolerance (needing more of the drug to achieve the same effect), withdrawal symptoms, and relapse after rehabilitation.

Globally, drug use continues to be high. In 2021, an estimated 296 million people (5.8% of the global population aged 15–64) used various drugs (National Bureau of Statistics [NBS], 2022). Of these, approximately 39.5 million people were diagnosed with drug use disorders, yet only one in five received appropriate treatment. In South America, more than half of those under treatment are under 25 years old, while in Africa, 70% are under 35 (UNODC, 2018).

In Nigeria, comprehensive data on drug use and treatment remain scarce, particularly in remote areas. Treatment access and choices are often shaped by people's knowledge, beliefs, and attitudes toward substance use. Barriers such as treatment cost, stigma, and inadequate service availability further hinder access. About 40% of people who reported needing treatment were unable to access it, primarily due to these challenges (UNODC, 2018).

The need for treatment is also influenced by what individuals know about the causes and consequences of drug use. While many people acknowledge the dangers of drug use, there is often limited understanding of addiction as a chronic disease. This lack of understanding can perpetuate misconceptions.

Eluke and Mbazie (n.d.) observed that individuals who use psychoactive substances may experience sleep disturbances, violent behavior, paranoia, and hallucinations—symptoms often misunderstood by families and communities. When individuals and families fail to recognize these as clinical symptoms of addiction, their treatment choices may be misguided.

Cultural and religious beliefs also play a crucial role in treatment-seeking behavior. In many Nigerian communities, illnesses not clearly medical in nature are often attributed to spiritual causes. Consequently, many individuals turn to traditional healers or faith-based interventions instead of evidence-based treatment. Ohemu et al. (2021) noted that traditional medicine (TM) remains more accessible than modern medicine in developing countries, as it aligns closely with sociocultural life.

Recognizing substance misuse as a disease—rather than a moral or behavioral failure—can shift public attitudes toward compassion and evidence-based care. Therefore, the choice of treatment that families make for a relative with substance use disorder may largely depend on their knowledge, beliefs, and attitudes (Bryan et al., 2000). Inaccurate information about drug use can lead to misguided support and inappropriate treatment choices.

While prior studies have explored public attitudes toward drug use, prevalence, and stigma (Bakare, 2016; Abdulkareem et al., 2016), limited research has examined how these psychosocial factors shape treatment choices. Against this background, the present study investigates people's knowledge, beliefs, and attitudes as determinants of treatment options for individuals with substance use disorders in Abia State. Specifically, the objectives were to:

1. Assess the level of knowledge about substance use disorders.
2. Explore the influence of religious and traditional beliefs on treatment choices.
3. Determine the extent to which attitudes affect treatment decisions for individuals affected by substance use.

We hypothesize that knowledge, beliefs, and attitudes are strongly associated with the treatment choices made when a relative is affected by substance use disorder.

2 METHODS

Research Design and Settings

A cross-sectional survey design was employed to purposively recruit 1,200 participants from three local government areas (LGAs) in Abia State: Isuikwuato, Arochukwu, and Ohafia. Among the 17 LGAs in the state, these three were chosen for their rich cultural heritage, prevalence of traditional medicine, and strong sense of community hospitality. Notably, none of these LGAs have a federal or state hospital with a foundation in drug treatment or psychiatry, making them ideal sites for investigating community-level knowledge and beliefs about substance use and treatment options.

Data collection spanned four weeks in each LGA. Field assistants played a vital role by distributing and retrieving questionnaires, ensuring wide coverage within their respective localities. Each assistant collected 400 completed questionnaires, resulting in a total of 1,200 well-filled responses presented to the research team for analysis.

Participants

The study involved 1,200 participants aged 18–69 years, recruited from the selected communities. All participants were briefed about the study's purpose, assured of confidentiality, and provided informed consent prior to participation.

Inclusion criteria required participants to (a) reside within the study area, (b) be between 18 and 69 years old, and (c) provide voluntary consent. Exclusion criteria included those unwilling to participate or unavailable during questionnaire distribution.

Both genders, various marital statuses, and different educational backgrounds were represented in the sample. Detailed demographic characteristics of participants are presented in Table 1.

Instrument

The study utilized a structured questionnaire consisting of four main sections:

- Section A: Demographic information
- Section B: Knowledge of drug use
- Section C: Beliefs about drug use and treatment
- Section D: Attitudes toward drug use and awareness of available evidence-based treatment centers in Abia State

The questionnaire was adapted from the *Attitude Toward Drug Abuse* subscale of the Ireland Drug-Related Knowledge, Attitude, and Beliefs Scale (KAB) and further developed into a 35-item *Knowledge, Beliefs, and Attitude Toward Treatment Questionnaire* (KBATQ). The instrument measured five core dimensions:

1. 10-item Knowledge of Drug Use Disorder Scale
2. 8-item Belief in Drug Use Disorder Scale
3. 11-item Attitude Toward Drug Use Disorder Scale
4. 4-item Treatment Choice Inventory
5. 2-item Drug Use Disorder Rehabilitation Rating Scale

Validity and Reliability

The instrument underwent a rigorous validation process to ensure psychometric soundness. Face and content validity were first established through expert review. Subsequently, exploratory factor analysis (EFA) was performed to assess the factor structure of the KBATQ (Beavers et al., 2013).

The Kaiser–Meyer–Olkin (KMO) measure was .806, and Bartlett's test of sphericity was significant, $\chi^2(406) = 4113.61$, $p < .001$, indicating sampling adequacy and sufficient inter-item correlations (Tabachnick & Fidell, 2013). Examination of the scree plot revealed nine factors accounting for 28.20% of the total variance, providing a satisfactory factor structure solution.

A pilot study was conducted in Ugwunagbo, Obingwa, and Umunneochi LGAs to test the internal consistency and reliability of the instrument. The Cronbach's alpha coefficients for the various dimensions were as follows:

- Knowledge of Drug Use Disorder = $\alpha = .89$
- Belief Scale = $\alpha = .88$
- Attitude Scale = $\alpha = .85$
- Treatment Choice Subscale = $\alpha = .75$

These values indicate strong internal consistency across the instrument dimensions.

Fieldwork and Data Collection Procedures

To ensure community engagement and accurate data collection, three male field assistants were recruited and trained. Each was a Higher National Diploma (HND) student at Abia State Polytechnic, Aba, and an indigene of one of the selected LGAs. Their familiarity with local dialects facilitated trust and effective communication during participant interaction.

The assistants introduced themselves, explained the purpose and significance of the study, and emphasized the voluntary nature of participation. Participants were informed of their right to withdraw at any time without consequences.

Informed consent was obtained by checking an "I Agree" box after reading the consent form. Although the study posed minimal risk of psychological distress, participants were provided with the phone number of a clinical psychologist (a member of the research team) for emotional support, brief intervention, or referral for rehabilitation if necessary.

Ethical Considerations

Ethical principles guiding the study included informed consent, nonmaleficence, anonymity, confidentiality, and beneficence. No names or photographs were collected, and participant data were not shared with third parties.

Following data collection, two trained research assistants coded and entered the data into IBM SPSS Statistics 23, where the dataset was cleaned and analyzed for descriptive and inferential statistics.

3 DATA ANALYSES

The data from the 1,200 participants were collated, organized, and analyzed using IBM SPSS Statistics version 23. Both descriptive and inferential statistical analyses were conducted. Descriptive statistics included frequencies, means, standard deviations, and correlations, while inferential statistics involved multiple linear regression to test the three hypotheses at the 0.05 level of significance.

Results

Table 1 | Summary of descriptive statistics showing demographic features of participants selected (n=1200)

Demographic variables	n	%
Age		
Range: 18-69 years	1200	100.0
Mean age: 42.57 years		
SD: 13.76		
Gender		
Male	783	65.3
Female	417	34.8
Marital status		
Single	237	19.8
Married	940	78.3
Divorced	16	1.
Widowed	7	0.6
Education		
SSCE	495	41.3
OND/NCE	496	41.3
BSC	195	16.3
PGD	14	1.2
Occupation		
Trader	515	42.9
Civil servant	349	29.1
Artisan	155	12.9
Farmer	181	15.1
Knowledge of drug use disorder		
Yes	556	46.3
No	644	53.7
Total	1200	100

Note: SD = Standard Deviation; SSCE = Senior Secondary Certificate Examination; OND/NCE = Ordinary National Diploma/Nigeria Certificate in Education; B.Sc. = Bachelor of Science; PGD = Postgraduate Diploma. Bottom of Form

The descriptive results in Table 1 reveal the demographic variables based on information obtained from 1,200 participants recruited for the study. Notably, there were 783 males (65.3%) and 417 females (34.7%), with ages ranging from 18 to 69 years (M = 42.57, SD = 13.76). A significant finding was that 46.3% of participants reported having knowledge of drug use, indicating that 53.7% of the participants had poor knowledge and beliefs

about drug use disorders. This suggests a prevalent lack of understanding of drug use as a disorder requiring medical and therapeutic interventions, as well as a high belief in traditional or spiritual healing. Table 1 provides further details on the demographic characteristics of the participants.

The matrix results in **Table 2** indicate that marital status was directly related to age ($r = .45, p < .01$), while educational status was directly associated with marital status ($r = .07, p < .05$). Belief in substance use disorders was directly related to knowledge of substance use disorders ($r = .41, p < .01$). This suggests that the stronger the participants' belief in substance use disorders as medical conditions, the more their knowledge about such disorders is reinforced and enhanced. Attitudes toward substance use disorders were also directly associated with both knowledge of and belief in substance use disorders ($r = .46, p < .01$; $r = .56, p < .01$, respectively). Participants' treatment choices were significantly and positively related to their knowledge, beliefs, and attitudes toward substance use disorders ($r = .42, p < .01$; $r = .44, p < .01$; $r = .49, p < .01$, respectively). According to the results of the final analysis, the coefficient matrix further indicated that knowledge of availability was positively associated with knowledge, beliefs, and attitudes about substance use disorders, as well as with treatment choice ($r = .29, p < .01$; $r = .32, p < .01$; $r = .35, p < .01$; $r = .28, p < .01$).

In conclusion, the correlation results of key variables underscore the predictive power of adequate knowledge of substance use as a disorder requiring medical and therapeutic intervention when choosing evidence-based treatment options. This knowledge base also fosters greater confidence in decision-making among relatives of substance users.

Regression Analysis Results

Hypothesis One: *Knowledge of Substance Use Disorders as a Predictor of Treatment Choice*

To test the first study hypothesis, multiple regression analyses were performed to examine the predictive roles of knowledge, beliefs, and attitudes toward substance use disorders on treatment choice among relatives of substance users. The results presented in Table 3 indicate that participants' knowledge, beliefs, and attitudes toward substance use disorders yielded a coefficient of multiple correlation ($R = 0.555$) and a coefficient of determination ($R^2 = 0.308$). This implies that approximately 30.8% of the variance in treatment choice was explained by the combined effects of these three variables.

Table 3 also presents the coefficients, intercept, and significance levels of the regression model. The multiple regression equation was estimated as:

$$y = 0.704 + 0.122x_1 + 0.116x_2 + 0.131x_3$$

This indicates that a one-unit increase in each independent variable (knowledge, belief, or attitude) leads to corresponding increases of 0.122, 0.116, and 0.131 units in treatment choice, respectively. Empirical results further revealed that knowledge of substance use disorders was an independent and positive

Table 2 | Summary of the zero-order correlation matrix of the study variables exploring the impacts of help-seekers' knowledge, beliefs, and attitudes on the choice of treatment for substance use disorders.

Variable	Sex	Age	MS	EDU	OC	KD	BE	ATD	TC	KA
Sex	1									
Age	.02	1								
MS	.02	.45**	1							
EDU	.02	.05	.07*	1						
OC	.04	.03	.05	.06*	1					
KD	-.03	.05	.04	-.03	-.01	1				
BE	-.05	.01	.05	-.03	-.01	.41**	1			
ATD	-.05	.01	.03	-.01	.03	.46**	.56**	1		
TC	-.03	-.00	-.00	.03	.06	.42**	.44**	.49**	1	
KA	-.04	.01	.02	-.01	.02	.29**	.32**	.35**	.28**	1

Note: MS = marital status; EDU = education; OC = occupation; K = knowledge of drug use disorder; BE = belief in drug use; ATD = attitude toward drug use; TC = treatment choice; KA = knowledge of availability.

*Correlation significant at the 0.05 level

* Correlation significant at the 0.01 level

Table 3 | Summary of multiple regressions based on the predictive influence of helpers' knowledge, beliefs and attitudes toward drug use disorders on the choice of treatment in Abia State.

Variables	Choice of treatment				
	Model β	t	Beta	P	95% CI
Constant	0.70	2.98		0.00	[0.24, 1.17]
Knowledge	0.12	7.43	0.21	0.00	[0.09, 0.15]
Belief	0.11	2.58	0.19	0.00	[0.08, 0.15]
Attitude	0.13	3.27	0.28	0.00	[0.10, 0.16]
R ²	0.308				
F	177.23				
AR ²	0.306				
Sig.	0.00				

Note: n = 1200, CI = confidence interval; *Significant at the 0.05 level; R = 0.555

predictor of treatment choice ($\beta = 0.21, t = 7.43, p < .05$). In other words, the greater the participants' knowledge of substance use disorders, the higher their likelihood of choosing evidence-based treatment options for their relatives. Therefore, the first hypothesis—stating that knowledge of substance use disorders significantly predicts treatment choice among relatives of substance users—was confirmed. These findings hold important implications for designing interventions that enhance awareness and improve treatment outcomes.

Hypothesis Two: *Belief in Substance Use Disorders as a Predictor of Treatment Choice*

Results further showed that belief in substance use disorders significantly predicted treatment choice among relatives of substance users ($\beta = 0.19, t = 6.58, p < .05$). The direction of the regression indicates a positive relationship—suggesting that a stronger belief in substance use as a medical and therapeutic condition corresponds with a greater tendency to seek evidence-based treatment. Thus, the second hypothe-

sis—stating that belief in substance use disorders significantly predicts treatment choice among relatives—was confirmed. This outcome reinforces the importance of promoting scientific understanding and challenging misconceptions about substance use disorders.

Hypothesis Three: *Attitudes Toward Substance Use Disorders as a Predictor of Treatment Choice.*

The third regression model demonstrated that attitudes toward substance use disorders also significantly predicted treatment choice ($\beta = 0.28, t = 9.27, p < .05$). The positive regression direction indicates that the more objective and favorable participants' attitudes were toward substance use disorders, the more likely they were to encourage or pursue professional mental health treatment options. Consequently, the third hypothesis—stating that attitudes toward substance use disorders significantly predict treatment choice among relatives of substance users—was confirmed.

Joint Predictive Influence and Stepwise Regression Results

Overall, the regression analysis revealed a joint predictive influence of knowledge, beliefs, and attitudes toward substance use disorders on treatment choice, $F(3, 1199) = 177.23, p < .05$. The positive relationship among all predictor variables implies that increased knowledge, stronger beliefs, and more favorable attitudes toward substance use disorders were associated with greater willingness to pursue professional treatment. This trend reflects a pro-treatment orientation and greater openness to mental wellness interventions among participants.

However, the study also identified poor availability of rehabilitation centers across the study area, which may have constrained treatment options and increased pressure on the few existing facilities.

A stepwise regression analysis was further conducted to determine the strongest predictor among the three independent variables. The results showed that attitude toward substance use disorders was the best predictor of treatment choice, $F(1, 1199) = 368.99, p < .05$, accounting for 28.5% of the variance in treatment choice. Knowledge of substance use disorders emerged as the second-best predictor, $F(1, 1199) = 235.84, p < .05$, explaining 4.8% of the variance, while belief in substance use disorders was the third-best predictor, contributing 2.5% of the total variance explained.

4 DISCUSSION

This study examined the urgent need to address the impact of help-seekers' knowledge, beliefs, and attitudes on the choice of treatment for substance use disorders (SUDs). The objectives were to: (1) assess people's level of knowledge about SUDs, (2) explore their beliefs in terms of religion and tradition, and (3) determine the extent to which their attitudes influence treatment choices for relatives affected by SUDs.

The findings support the main hypothesis that knowledge, beliefs, and attitudes significantly predict treatment choices when a family member is affected by SUD. These results partially align with Muzaffar et al. (2023), who studied knowledge, attitudes, and practices regarding substance use among 270 youths and found that respondents were aware that substance use could induce euphoria, anxiety, aggressiveness, depression, and other mood changes. Similarly, Ogochukwu et al. (2022) reported that over half of their student sample had good knowledge of substance use, yet only 9.6% exhibited negative attitudes toward drug use. A plausible explanation for these findings is that many

Africans are highly influenced by tribal, superstitious, and religious beliefs, which shape perceptions and treatment choices regarding substance use disorders. Consequently, knowledge, beliefs, and attitudes jointly predict treatment decisions for relatives with SUDs.

In contrast, other studies, such as Shi et al. (2024), focused primarily on demographic factors like sex and education level affecting drug knowledge, without examining the influence of beliefs, attitudes, or traditional/spiritual considerations on treatment choices. To the best of our knowledge, this study is the first to link these psychosocial variables to treatment choice while highlighting systemic barriers such as the limited availability of evidence-based rehabilitation centers and poor awareness of their existence.

The results revealed that participants generally had poor knowledge of SUDs, high reliance on spiritual/traditional treatments, and negative attitudes, often attributing SUD symptoms to character flaws or spiritual causes rather than medical and psychosocial factors. When individuals exhibit psychotic or abnormal behaviors related to SUDs, families may externalize the problem and opt for religious or traditional interventions. The shortage of standardized evidence-based rehabilitation centers in Abia State further constrains treatment options. These findings are consistent with Matthew et al. (2023), who reported significant disparities in the availability and accessibility of evidence-based treatments (EBTs) for SUDs.

Few previous studies have explicitly examined knowledge, beliefs, and attitudes as determinants of treatment choice. Abikoye (2015) noted that poor awareness of treatment facilities, attitudinal barriers, and cultural beliefs hindered effective SUD management. Accordingly, while there is a general awareness of substance abuse in Abia State, significant advocacy for evidence-based treatment options is still needed to improve public understanding of SUDs and associated behavioral and psychotic effects.

5 RECOMMENDATIONS

1. The Abia State government should intensify public sensitization on the dangers and health implications of substance use, emphasizing that SUDs require medical and therapeutic intervention rather than being perceived as character flaws.
2. The government should expand the number of rehabilitation and drop-in centers to increase access to evidence-based care and reduce reliance on herbal and spiritual healing practices.

Authors' contributions: CRN: Study conceptualization, theoretical review, methodology, and discussion. DOI: Data analysis, instrument validation, results interpretation, references, proofreading and editing. INJ: Introduction, theoretical review, and general supervision. All the authors read and made input before approving the final manuscript.

Declaration of Interest: The authors declare that no competing interests exist.

Data availability Statement: The data supporting the findings is coded and stored in statistical software, which can be made available by the lead author upon reasonable request.

Ethical Considerations: Ethical clearance was obtained from the Ethics Committee, Department of University Teaching Hospital, Aba, Abia State, while informed consent was obtained from respondents before administering the questionnaires.

- Clinical psychologists, psychiatrists, and other addiction professionals should be employed to address the growing prevalence of SUDs in the State.

6 LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

- Few previous empirical studies exist on this topic, limiting comparative analysis for the present study.
- The questionnaire was extensive, which may have affected participant engagement. Field assistants mitigated this by explaining the study's relevance. Future studies should develop shorter, user-friendly instruments to enhance participation.
- The study was limited to three local government areas in Abia State, restricting the generalizability of findings. Future research should expand the geographic scope to include additional areas and states in Nigeria.
- Cross-sectional design raises the possibility of biasing social desirability and limits causal inference. Future studies could employ qualitative methods, including focus group discussions, to improve generalizability and explore nuanced factors influencing treatment choice.

REFERENCES

- Aalsma, M. C., Adams, Z. W., Smoker, M. P., Marriott, B. R., Ouyang, F., Meudt, E., & Hulvershorn, L. A. (2023). Evidence-based treatment for substance use disorders in community mental health centers: The ACCESS program. *Journal of Behavioral Health Services & Research, 50*(3), 333–347. <https://doi.org/10.1007/s11414-023-09833-8>
- Abdalqader, M. A., Baobaid, M. F., Elnajeh, M., Fuad, M. D., Ghazi, H. F., & Nasir, B. M. (2016). Knowledge, attitudes, and beliefs related to drugs among Pahang matriculation students in Malaysia. *International Journal of Public Health Research, 6*(2), 750–756. <https://www.researchgate.net/publication/307543463>
- Abikoye, G. E. (2015). Factors affecting the management of substance use disorders: Evidence from selected service users in Bayelsa State. *African Journal of Drug & Alcohol Studies, 14*(2).
- Bakare, A. (2016). Psychoactive substances use among inpatients in a Nigerian neuropsychiatric hospital: Prevalence, pattern, and presentation. *MOJ Addiction Medicine & Therapy, 2*(1). <https://doi.org/10.15406/mojamt.2016.02.00016>
- Beavers, A. S., Lounsbury, J. W., Richards, J. K., Huck, S. W., Skolits, G. J., & Esquivel, S. L. (2013). Practical considerations for using exploratory factor analysis in educational research. *Practical Assessment, Research & Evaluation, 18*(1), 6. <https://doi.org/10.7275/qv2q-rk76>
- Bryan, A. (2000). Drug-related knowledge, attitudes and beliefs in Ireland: Report of a nation-wide survey.
- Eluke, V. E., & Mbazie, C. J. (n.d.). Awareness, knowledge, and attitude of Southeast residents on the abuse of methamphetamine hydrochloride drugs. *IMSU Journal of Communication Studies, 6*(1). <https://www.imsujcs.com/Journals/2022/6.pdf>
- Matthew, C. A., Zachary, W. A., Michael, P. S., Brigid, R. M., Fangqian, O., Emily, M., & Leslie, A. H. (2023). Evidence-based treatment for substance use disorders in community mental health centers: The ACCESS program. *Journal of Behavioral Health Services & Research, 50*(3), 333–347. <https://doi.org/10.1007/s11414-023-09833-8>
- Muzaffar, H., Mir, R. K., Gupta, B. L., Rashmi, K., Richa, M., Mehak, T. M., Hemaal, K., Amani, M., Burhan, H., Raheel, M. N., & Sirjan, S. (2023). Pattern, knowledge, and attitude regarding substance use among youth (11–24 years): Findings from an exploratory survey. *International Journal of Community Medicine and Public Health, 10*(3), 1218–1223. <https://doi.org/10.18203/2394-6040.ijcmph20230643>
- National Bureau of Statistics, Centre for Research and Information on Substance Abuse. (2022). *Drug use in Nigeria*. Abuja: National Bureau of Statistics.
- Ogochukwu, A. M., Chigozie, G. A.-O., Uchenna, I. N., & Chibueze, A. (2022). Knowledge, attitude, and practice of substance use in Nigeria among secondary school students. *Journal of Health Research, 9*(1), 23–30. https://doi.org/10.4103/cjhr.cjhr_180_20
- Ohemu, T. L., Shalkur, D., Ohemu, B. O., & Daniel, P. (2021). Knowledge, attitude, and practice of traditional medicine among people of Jos South Local Government Area of Plateau State, Nigeria. *Journal of Pharmacy & Bioresources, 18*(2), 147–154. <https://doi.org/10.4314/jpb.v18i2.7>
- Shi, H., Tan, X., Shu, J., Zhou, J., Dan, S., Yang, L., & Chen, Z. (2024). Knowledge, attitude, and practice of medication and its influencing factors among residents in western China: A large-scale cross-sectional study. *Frontiers in Medicine, 11*. <https://doi.org/10.3389/fmed.2024.1303672>
- Tabachnick, B., & Fidell, L. (2013). *Using multivariate statistics* (6th ed.). Allyn & Bacon.
- United Nations Office on Drugs and Crime (UNODC). (2018). *World drug report 2019: Executive summary, conclusions, and policy implications*. Vienna: UNODC.

