Original Research Article

PATTERN OF PSYCHOACTIVE SUBSTANCE USE AND ITS DETERMINANT FACTORS AMONG ADOLESCENTS IN URBAN AND RURAL COMMUNITIES IN ABIA STATE, NIGERIA

ABSTRACT

The consumption of psychoactive substances (PAS) among adolescents has become a major public health concern. As adolescents in different geographical settings experience unique exposures and challenges, understanding the pattern and determinant factors of PAS use across these settings is crucial for targeted interventions. This study aimed to evaluate the patterns of PAS consumption and identify the determinants influencing such behaviour among adolescents in urban and rural communities of Abia State, Nigeria. A cross-sectional study involving 1,036 adolescents from urban and rural settings of Abia State was conducted. Descriptive statistics, chi-square tests, and logistic regression were used to analyze the data. The findings revealed that alcohol was the most commonly initiated substance in both rural (76.6%) and urban (73.6%) areas. The majority of users consumed substances occasionally or regularly. Crucially, peer usage emerged as the most significant predictor of adolescent substance use, with those having substance-using peers being 17.3 times more likely to use themselves. Additionally, mother's occupation was also found to be a significant determinant, with adolescents of mothers in menial jobs or unemployed 1.8 times more likely to use substances. On the other hand, factors like the father's occupation and emotional support were less predictive. Such findings are pivotal in informing targeted interventions to curb psychoactive substance use among adolescents in Nigeria.

Keywords: Adolescents, Occupation, Peer Influence, Psychoactive Substance

1. INTRODUCTION

Adolescence, the transitional phase from childhood to adulthood, is marked by numerous physical, psychological, and social changes. Within this window, young individuals begin exploring their environment, seeking autonomy, forming new peer relationships, and, often, engaging in behaviours that can pose significant risks to their health and well-being. One such behaviour is the use of

psychoactive substances, including alcohol, tobacco, and illicit drugs.

Globally, substance use among adolescents is of increasing concern. The World Health Organization (WHO, 2018) notes that harmful use of alcohol results in 3.3 million deaths each year and that younger age groups, particularly adolescents, bear a substantial burden of these alcohol-related harms. Apart from alcohol, the United Nations Office on Drugs and Crime (UNODC, 2019) revealed that 5.4% of the youth aged 15-16 years used cannabis, while non-medical use of pharmaceutical drugs is on the rise.

In Nigeria, the story mirrors the global trend, if not worse. A recent study by the National Bureau of Statistics and the Centre for Research and Information on Substance Abuse (2018) indicated that one in every four Nigerians between 15 and 64 years had used a drug other than alcohol and tobacco at some point in their lives. The North-East and South-South geopolitical zones of the country presented with the highest drug use prevalence.

While studies have assessed substance use across Nigeria, few have distinguished patterns based on urban versus rural settings. Rural-urban disparities exist in various health-related behaviours and outcomes, and substance use is not exempt (Akwataghibe*et al*., 2020). In some settings, urbanization has been linked to increased substance use due to factors like easy accessibility, peer pressure, and exposure to pro-substance use cultures.

Several factors contribute to the uptake of substances among adolescents. These include peer pressure, family background, mental health issues, societal norms, exposure to advertisements, academic pressures, and urbanization (Degenhardt *et al*., 2016). In the Nigerian context, factors such as economic hardship, rapid urbanization, and social upheaval could serve as potential triggers for substance use among adolescents (Obot, 2016).

Given the significant public health implications of adolescent substance use, there's a pressing need to understand its patterns and determinant factors in specific contexts, such as urban and rural communities in Abia State, Nigeria. Such knowledge can inform tailored interventions aimed at reducing and preventing harmful use among adolescents.

2. METHODOLOGY

2.1 Research Design

This study employed a cross-sectional descriptive design to ascertain the pattern and determinants of psychoactive substance use among adolescents in urban

and rural communities of Abia State, Nigeria.

2. 2. Study Area

Abia State, located in the southeastern part of Nigeria, served as the study area. The state was divided into rural and urban communities for the purpose of this study.

2.3. Study Population

The study population comprised adolescents aged between 10-19 years, residing in Abia State, Nigeria.

2.4. Sample Size Determination

A sample size of 1036 adolescents was chosen using Cochran's formula for proportionate sample size determination.

2.5. Sampling Technique

2.6. A rural-urban comparative household survey using multistagesampling technique. Adolescents in both urban and rural communities of Abia State were stratified based on their area of residence. Random sampling was then applied to select the participants from each stratum. (we may need to drop this)

2.6. Data Collection Instrument

A structured interviewer administeredquestionnaire. The questionnaire captured:Demographic information such as age, gender, place of residence, Pattern of psychoactive substance use, Factors influencing psychoactive substance use like family and peer substance use, parents' occupation, emotional support, etc.

2.7. Data Collection Procedure

Trained field assistants administered the questionnaires face-to-face with the participants. Prior to data collection, the assistants were trained on the objectives of the study, ethical considerations, and how to administer the questionnaires.

2.8. Data Analysis

Data were entered into a computerized database and analysed using statistical software. Descriptive statistics (frequencies, percentages) were employed to describe the pattern of psychoactive substance use. Chi-square tests were used to test the association between substance use and the identified determinant factors. Finally, multivariate logistic regression was used to identify the predictor factors of psychoactive substance use among adolescents.

2.9. Ethical Consideration

Approval for the study was obtained from a recognized ethical review board in Nigeria. Informed consent was also obtained from the adolescents and/or their

guardians whereenecessary. Participants' confidentiality was maintained throughout the study.

3. RESULTS

Alcohol is the most commonly first used substance in both rural (76.6%) and urban (73.6%) settings. There's a statistically significant difference between the two groups with a p-value of 0.033.The majority of adolescents in both settings have tried only one substance, with the percentages being 38.5% and 37.1% for rural and urban respectively (Table 1).Alcohol and cigarette use appears relatively consistent between both the rural and urban groups.For all substances, there isn't much difference between regular, occasional, or rare usage rates between the rural and urban adolescents, except for alcohol which shows a statistically significant difference (p=0.013) (Table 2).Peer group use and mother's occupation seem to significantly influence substance use with p-values of 0.040 and 0.024, respectively. Emotional support and father's occupation also have statistically significant differences in their p-values (Table 3).Adolescents with peers who use substances are 17.30 times more likely to use substances themselves when adjusted for other factors (AOR = 17.30, p=0.000).The mother's occupation also significantly predicts substance use; adolescents whose mothers have menial jobs or are unemployed are 1.80 times more likely to use substances compared to those whose mothers are in civil service or business (AOR = 1.80, p=0.000) (Table 4).While emotional support was found significant in bivariate analysis (COR), after adjusting for other variables, it's no longer a significant predictor (AOR p-value = 0.947) (Table 5)

Table 1:First Substance Ever Used and Number of Substances Used among adolescents in Abia state. (N=1036)

	Rural	**Urban**	**Statistics**
	n (%)	n (%)	$\chi 2$ p value
First Substance			
Alcohol	418 (76.6)	363 (73.6)	10.267 0.033*
Cannabis	70 (12.8)	68 (13.8)	

Cigarette	53 (9.7)	55 (11.2)	
Codeine	5 (0.9)	7 (1.4)	
Number of Substances			
1	209 (38.5)	183 (37.1)	3.089 0082
2	133 (24.5)	129 (26.2)	
3	101 (18.6)	92 (18.7)	1
4	46 (8.5)	42 (8.5)	
5	54 (9.9)	47 (9.5)	

Table 2:Frequency of Use of Psychoactive Substances among adolescents in Abia State

	Rural	**Urban**	**Total**	**Statistics**	
Substances	**n (%)**	**n (%)**	**n (%)**	**$\chi 2$**	**p—value**
Cigarette					
Regularly**	**107 (53.8)**	**96 (53.3)**	**203 (53.6)**	**3.182**	**0.674**
Occasionally	**65 (32.7)**	**59 (32.8)**	**124 (32.7)**		
Rarely	**27 (13.5)**	**25 (13.9)**	**52 (13.7)**		
Alcohol			**6.176**	**0.013***	
Regularly	**286 (57.7)**	**257 (58.9)**	**543 (58.3)**		
Occasionally	**104 (21.0)**	**94 (21.6)**	**198 (21.2)**		
Rarely	**106 21.3)**	**85 19.5)**	**191 (20.5)**		
Cannabis			**4.918**	**0.997**	
Regularly	**220(64.3)**	**206 (67.1)**	**426 (65.6)**		

Occasionally	**67 (19.6)**	**61 (19.9)**	**128 (19.7)**	
Rarely	**55 (16.1)**	**40 (13.0)**	**95 (14.7)**	
Codeine			**0.524**	**0.997**
Regularly	**53 (37.9)**	**53 (37.1)**	**106 (37.5)**	
Occasionally	**60 (42.9)**	**58 (40.6)**	**118 (41.7)**	
Rarely	**27 (19.2)**	**32 (22.3)**	**59 (20.8)**	
Tramadol			**0.312**	**0.989**
Regularly	**40 (29.0)**	**42 (29.8)**	**82 (29.4)**	
Occasionally	**50 (36.2)**	**52 (36.9)**	**102 (36.6)**	
Rarely	**48 (34.8)**	**47 (33.3)**	**95 (34.0)**	

Table 3:Factors affecting psychoactive substance use among adolescents in rural and urban communities in Abia State

Variables		**Geographical Locations**				
	Rural		Urban			P value
Family PAS Use Yes No	397(80.5) 96(19.5)	227(73.9) 80(26.1)	415(77.7) 119(22.3)	210(78.9) 56(21.1)	4.953	0.176
Peer group use Yes No	419(85.0) 74(15.0)	250(81.4) 57(18.6)	471(88.2) 63(11.8)	233(87.6) 33(12.4)	8.308	0.040*
Mother's occupation Civil servant/business Menial jobs/unemployed	386(78.3) 107(21.7)	212(69.1) 95(30.9)	391(73.2) 143(26.8)	203(76.3) 63(28.7)	9.452	0.024*
Emotional support Yes No	412(83.6) 81(16.4)	229(74.6) 78(25.4)	401(75.1) 133(24.9)	203(76.3) 63(23.7)	13.941	0.003*

Father's occupation **Civil servant/business** **Menial jobs/unemployed**	470(95.3) 23(4.7)	270(87.9) 37(12.1)	456(85.4) 78(14.6)	257(96.6) 9(3.4)	44.639	0.000*

Table 4: **Multivariate logistic regression of psychoactive substance use using predictor factors identified in bivariate analysis**

Independent variables	**User**	**Non users**	**COR**	**p value**	**AOR**	**P value**
Peer use Yes No	1004(96.9) 32(3.1)	369(65.4) 195(34.6)	1 16.58(11.12-24.55)	0.000	1 17.30(11.10-26.97)	0.000*
Father's occupation Civil servant/business Menial	934(90.2) 102(9.8)	519(92.0) 45(8.0)	1 0.79(0.55-1.15)	0.218	1 0.81(0.49-1.33)	0.405

job/unemployed						
Mother's occupation Civil servant/business Menial job/unemployed	795(76.7) 241(23.3)	397(70.4) 167(29.6)	1 1.39(1.10-1.75)	0.005	1 1.80(1.30-2.49)	0.000*
Emotional support Yes. No.	789(76.2) 247(23.8)	456(80.9) 109(19.1)	1 0.76(0.59-0.96)	0.031	1 0.99(0.71-1.37)	0.947

4. DISCUSSION

The use of psychoactive substances among adolescents is a concern worldwide, and Nigeria, like many other countries, faces challenges related to the initiation and continued use of these substances by this vulnerable group. Thispresent study sought to elucidate the pattern of psychoactive substance use and its determinant factors among adolescents in urban and rural communities in Abia State, Nigeria.From the results (Table 1), it is evident that alcohol is the most popular first substance of choice for both urban and rural adolescents in Abia state, with 76.6% of rural and 73.6% of urban adolescents reporting its use. The preference for alcohol as an initial substance aligns with the literature, as it is often considered socially acceptable and is easily accessible in many societies, including Nigeria (Oshodi *et al*., 2010). Moreover, the significant association ($p = 0.033$) between the location (urban/rural) and the choice of alcohol further underscores the pervasive influence of cultural norms and accessibility in determining substance use patterns.

Cannabis and cigarettes follow alcohol in popularity, but their usage percentages are considerably lower. The near-equal percentages of cannabis and cigarette use between urban and rural settings indicate a similar exposure level and possible normalization of these substances in both environments. This could be due to globalization and the widespread dissemination of substance use behaviours via media and peer influences (Adekeye*et al*., 2015).

Codeine, an opioid, showed the least preference among the substances, which may be attributed to the strict regulatory measures against opioids in Nigeria, following widespread misuse and the associated health consequences (Nwagwu *et al*., 2019).

It is notable that a significant proportion of the adolescents reported the use of more than one substance. This multi-substance use phenomenon could amplify the health risks associated with each substance. Previous studies have reported that adolescents engaging in multi-substance use are more likely to experience substance-related health problems and have a higher risk of developing addiction (Connor *et al*., 2014).

The similarities in the percentages of adolescents using 2, 3, 4, or 5 substances across urban and rural settings suggest a shared pattern of substance consumption across the regions. While not statistically

significant, the data points towards a homogenization of substance use behaviours among adolescents, irrespective of their urban or rural domicile.The results emphasize the need for targeted interventions in both urban and rural areas, addressing the early initiation of substance use, particularly alcohol. There's a need for comprehensive educational programs in schools and communities highlighting the risks associated with early and multi-substance use.Furthermore, as indicated by the consumption patterns, interventions should not solely targ*et al*cohol or any single substance but should address the broader spectrum of substance misuse. The data also calls for a collaborative approach, bridging the urban-rural divide, ensuring that initiatives are relevant, appropriate, and effective in both settings.

The results of the study (Table 2) reveals that a majority of the adolescents in both rural and urban communities regularly use cigarettes, with 53.6% of them being regular users. The similar percentages between the two areas (53.8% in rural and 53.3% in urban) indicates that there's almost no significant difference between the rural and urban settings in terms of regular cigarette use. This observation suggests that interventions for cigarette use need to be comprehensive, targeting both urban and rural adolescents.

Alcohol use exhibited some variance between rural and urban settings. A significant proportion of adolescents were regular users of alcohol in both rural (57.7%) and urban (58.9%) settings. The slightly higher usage in urban areas, although statistically significant ($p = 0.013$), might be influenced by factors like easier access to alcohol or higher social acceptability. The results resonate with studies like Oshodi *et al*. (2010), which found high levels of alcohol consumption among Nigerian adolescents, suggesting a growing trend.

For cannabis, a striking 65.6% of adolescents reported regular usage, with urban areas having a slightly higher proportion (67.1%) than rural areas (64.3%). These numbers are concerning, given the potential negative impacts of cannabis on adolescent brain development and the risk for developing addiction (Volkow *et al*., 2014).

Codeine and tramadol usage patterns were also explored. Approximately 37.5% of adolescents regularly used codeine, while 29.4% regularly used tramadol. The nearly equal percentages in both rural and urban settings for codeine and tramadol use imply that these substances are easily

accessible in both types of communities. This observation corroborates with reports by the Nigerian National Drug Law Enforcement Agency, which has expressed concerns about the rising abuse of cough syrups containing codeine and tramadol among Nigerian youths (NDLEA, 2018).

While this table primarily presents the usage patterns, it is crucial to understand the underlying determinant factors. Previous research has linked psychoactive substance use among Nigerian adolescents to factors such as peer pressure, curiosity, family background, and societal influence (Abayomi & Babalola, 2013). It's essential to examine how these determinants manifest in both urban and rural settings, potentially influencing the patterns observed.

The results of this study (Table 3) reveal a notable percentage of adolescents exposed to family PAS use in both rural (80.5%) and urban (73.9%) areas. Although there is a higher exposure rate in rural areas, the difference is not statistically significant (P = 0.176). This aligns with a body of research indicating that familial substance use can influence adolescent substance initiation and patterns (Swendsen *et al*., 2010). However, the slight rural-urban disparity may indicate socio-cultural or economic variances between these communities influencing family PAS use.

Peer group use of PAS emerged as a significant determinant for adolescent substance use. There was a marked difference between rural (85.0%) and urban (81.4%) adolescents with peers using psychoactive substances, and this difference was statistically significant (P = 0.040). This finding corroborates with numerous studies which have identified peer influence as a strong determinant of adolescent substance use (Simons-Morton & Chen, 2006). Adolescents often tend to conform to the behaviours of their immediate social group, making this a crucial focus area for interventions.

Interestingly, adolescents with mothers engaged in civil service or business-related jobs were more likely to use PAS in both urban and rural areas compared to those with mothers in menial jobs or unemployed. The significant difference (P = 0.024) might be indicative of the economic status and its indirect implications on exposure, affordability, and acceptability of PAS. The socio-economic conditions of families have been associated with substance use patterns among adolescents in previous studies (Hanson & Chen, 2007).

The study found a significant association (P = 0.003) between emotional support and PAS use. Adolescents in rural areas who received emotional support reported a

higher rate (83.6%) of substance use compared to their urban counterparts (74.6%). While it might seem counterintuitive at first, it's possible that adolescents in rural areas, even when provided emotional support, face other pressures or environmental factors prompting PAS use. Emotional well-being and its interaction with substance use is multifaceted, and other research has shown that adolescents lacking emotional support are at greater risk for substance misuse (Wills & Vaughan, 1989).

There was a stark difference in PAS use among adolescents based on their father's occupation, with a highly significant P value (P = 0.000). The majority of both rural (95.3%) and urban (87.9%) adolescents using PAS had fathers engaged in civil services or businesses. As with the mother's occupation, this could reflect socio-economic implications and accessibility to PAS.

The findings of this study (Table 4) strongly emphasize the influence of peer use on substance use patterns among adolescents. Adolescents with peers who used psychoactive substances were found to be at a substantially higher risk of using these substances compared to those whose peers did not use such substances. This was evident from the impressive odds ratio (AOR) of 17.30, which indicates that adolescents who have friends using these substances are 17.30 times more likely to use them as compared to those whose peers do not use. This finding resonates with previous literature which has continually underlined peer influence as one of the strongest predictors of substance use during adolescence (Bahr *et al*., 1995; Simons-Morton & Chen, 2006). This can be attributed to peer conformity and the need for adolescents to be accepted within their social circles, which may inadvertently increase susceptibility to risk-taking behaviours like drug use.

An interesting observation from the findings was the relationship between the occupations of parents and substance use patterns in adolescents. While the father's occupation (whether in civil service/business or menial jobs/unemployment) showed no significant association with adolescents' substance use behaviour, the mother's occupation appeared to play a role. Specifically, adolescents whose mothers were engaged in menial jobs or were unemployed had a higher likelihood (AOR = 1.80) of using psychoactive substances than those whose mothers were in the civil service or business. Previous research has shown parental supervision and socio-economic status can influence adolescents' risk behaviours, including substance use

(Hoffmann, 2002). It is plausible that mothers in lower socioeconomic occupations may have less time for supervision or are less equipped with resources to deter their children from engaging in risky behaviours.

The study's results on the role of emotional support were mixed. On bivariate analysis, adolescents receiving emotional support were less likely to engage in substance use. However, when adjusted for other variables, the effect diminished and was not significant. This suggests that while emotional support might play a role in substance use, other factors in the model might mediate or overshadow its direct influence. This is consistent with research that has found emotional support to be protective against substance use (Wills *et al*., 2004), but its effectiveness may be contingent on other concurrent factors in an adolescent's life.

5. CONCLUSION

This study highlights the importance of understanding the regional variations and specific factors influencing adolescent substance use. Interventions should not only focus on educating the youth but also on enhancing family and community support systems, considering socio-economic factors, and strengthening peer education programs.

6. RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

i. **Policy Development**: Policies aiming to reduce access to psychoactive substances among adolescents should be developed, with a special focus on the most frequently used substances identified, which are alcohol and cannabis.

ii. **Community Education and Awareness**: Community education and awareness on the detrimental effects of psychoactive substances should be enhanced. Emphasizing the high prevalence of usage amongst adolescents in both urban and rural areas could be a central point of these awareness campaigns.

iii. **Parental Guidance and Support**: Parental guidance and support, emphasizing the importance of emotional support should be encouraged, as it appears to be a significant factor influencing substance use.

7. LIMITATIONS

This study was limited by its cross-sectional nature which does not allow for causality determination. Furthermore, the

self-reported nature of the data might have led to recall bias or underreporting due to the stigma associated with substance use.

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