Relapse Trajectories and Psychosocial Characteristics of Adolescents in Rehabilitation Care in Jos, Nigeria

Dauda Audi Dangiwa[1], Josiah Nanpon Dangun[2], Isaac Hezekiah Achwai[2], Ikechukwu Felix Onwuliri[3], Yusufu Maigari[4], Enoch Gback Dangiwa[5], Damaris Kyoni Dangiwa[5], Ogaraku Marvin[3], John Kayode Falana[6], Timothy Olugbenga Ogundeko[7]*, Moses David Audu[4]

[1]Department of Clinical Pharmacy and Pharmacy Practice, Federal University of Applied Sciences, Kachia, Nigeria

[2]Department of Pharmacy, College of Health Technology, Zawan, Plateau State, Nigeria

[3]Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmaceutical Sciences, University of Jos, Nigeria

[4]Department of Psychiatry, Faculty of Medical Sciences, Jos University Teaching Hospital, Jos, Nigeria

[5]Department of General and Applied Psychology, Faculty Social Sciences, University of Jos, Nigeria.

[6]LAMED Group of Community Pharmacies, Jos Nigeria.

[7]Department of Pharmacology and Therapeutics, College of Medical Sciences, Bingham University, Jos Campus, Nigeria

***Corresponding Author**

DOI: https://doi.org/10.51244/IJRSI.2026.130200166

Received: 02 February 2026; Accepted: 08 February 2026; Published: 17 March 2026

ABSTRACT

Substance use disorders (SUDs) among adolescents constitute a growing public health concern in Nigeria and sub-Saharan Africa, with prevalence estimates ranging from 32.9% to 69.3% nationally and approximately 41.6% regionally. This retrospective cross-sectional study reviewed 220 clinical case files of adolescents and young adults treated for substance use disorders at Quintessential Healthcare Centre, Jos, between 2010 and 2018. Data extracted included socio-demographic characteristics, substances of abuse, assessment instruments, psychosocial interventions, number of admissions, and relapse episodes. Descriptive analysis was conducted using SPSS version 20.0. Findings showed marked male predominance (83.6%) and a mean age of 29.88 ± 8.84 years, indicating early initiation with persistence into adulthood. Alcohol, tobacco, and cannabis were the most frequently abused substances. The mean number of admissions was 1.50 ± 1.01, while the mean relapse rate was 0.71 ± 1.12. Relapse was associated with peer influence, unemployment, family dysfunction, and limited structured aftercare. Strengthened prevention, gender-sensitive services, and structured post-discharge follow-up are recommended.

Keywords: Adolescents; Substance use disorder; Relapse; Psychosocial determinants; Nigeria; Rehabilitation

INTRODUCTION

Substance abuse could be described “as a maladaptive pattern of drug use leading to clinically significant impairment or distress” (Kpae, 2019) [1]. Looking at the impact on adolescents, risk-taking behavior is common and is often associated with the engagement in unlawful acts and conducts (Gonzales et al., 2017) [2] among adolescents. This manifestation is often geared towards building an identity, that is simultaneously modified by the family system and environment (Willoughby et al., 2014) [3]. Previous research suggests that children who start using substances at an early age are more likely to exhibit behavioral problems than children who start later (Korhonen, 2018) [4].

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XIII Issue II February 2026

Adolescence is a specific moment of the development of young people engaging in a great deal of personal and interpersonal exploration, including physical, behavioral, and cognitive changes (Saladino et al., 2021) [5], thus, characterized by high psychosocial vulnerability (Hatano et al., 2018) [6] as they interact with their social space. Interrelationship between substance use and behavioral problems in adolescents have been severally reported (Frobel et al., 2022) [7], including lower quality of life in children (Stevanovic et al., 2015) [8]; (Essex et al., 2014) [9], high levels of family dysfunction are related to alcohol use (McKay, 2014) [10], social media has a significant effect on drug abuse among youth in Port Harcourt (Eze et al., 2024) [11], increases the odds of suicidal behaviors among adolescents (Bohnert et al., 2017) [12], Low self-esteem, which makes adolescents view themselves as inadequate, worthless, unlovable, and incompetent (Opakunle et al 2022) [13]; (Chinawa, et al 2015) [14] in tandem with the interiorization and symbolization of models and the roles assumed during life experiences (Erikson and Erikson, 2018) [15] amongst others.

The problem of substance abuse is becoming overwhelming over the years especially as civilization and economic and population explosion pressures have become a global phenomenon.

Globally, it is estimated that 9% of the adolescent population aged 12 years and older are classified as drug dependent (Gurung et al., 2017) [16]. Earlier reports from a systematic review and a meta-analytic report of 27 studies across sub-Saharan Africa indicate that the overall prevalence of drug abuse among adolescents is 41.6% (Olawole-Isaac et al., 2018) [17], while in Nigeria, available statistics indicate a relatively high prevalence rate of adolescent drug abuse, ranging from 32.9% to 69.3% (Ogunsola et al 2016,) [18]; (Aremu et al 2018) [19].

Drug dependence and addiction treatment include medication and behavioural therapy (Vujanovic, et al 2020) [20]. However, like with other medical conditions, treatment and rehabilitation are often followed by relapse (Malik et al., 2023) [21] (National Institute on Drug Abuse, 2018) [22]. Relapse to substance use after successful detoxication and rehabilitation is a public health concern worldwide (Kabisa et al 2021) [23], as this is a characteristic of addiction that is very common, and it is expected that persons trying to overcome dependence may go through one or through numerous relapses before successfully abstaining (Werner et al., 2020) [24].

This study investigated the psychosocial determinants and relapse patterns among adolescents receiving treatment for substance use at Quintessential Healthcare Centre (QHC), Jos, Nigeria.

MATERIALS AND METHODS

Study Area

The study was carried out at the **Q**uintessential **H**ealthcare **C**entre (QHC) which is a Non-Governmental Organization (NGO) involved in treatment and rehabilitation; with experience in helping men and women overcome substance abuse/addiction in Gold and Base, Ray field of Jos South LGA, Nigeria. It has trained healthcare professionals in all fields of healthcare delivery ranging from pharmacists, nurses, doctors, psychosocial therapists involved in treatment and rehabilitation of addicts. QHC is committed to providing evidenced-based support and care to clients who are experiencing difficulty in breaking free from substance misuse and all individuals who require healing in their psychological, emotional and mental health of health care provision.

Study Design and Data Collection

The study adopted a research design of cross-sectional descriptive survey study according to (Kothari and Garg (2014) [25]; Wang, X., & Cheng, Z. (2020) [26]. Data was collected from files of the in-patients of Quintessential Healthcare Center, Jos Nigeria by way of sorting the cases according to diagnosis and psychosocial profiles from 2010 to 2019.

Study Population

The study population consisted of cases of drug addiction in QHC. These cases were confirmed from the

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XIII Issue II February 2026

medical case files with due permission from the head of the center for psychological medicine as described by the methods of Kothari and Garg (2014) [25].

Inclusion Criteria

Adolescents who attended Quintessential Health care Center for cases of drug addiction from 2010 to 2018 were included.

Exclusion Criteria

Patients who were not adolescents, patients who attended QHC for other reasons other than drug addiction, and those who attended the facility at other periods which do not fall within the selected period used for the study (2010-2018).

Sample Size Determination

Sample size determination was done using Yamane approach as illustrated below:

$N_y=N/(1+Ne^2)$

Where N= population size (220)

e = alpha level i.e. e= 0.05 since confidence level is 95%

$=220/(1+(220x0.05^2))$

$=220/1.55$

$=141.935$

Approximately 142. However, 220 cases were used.

Study Limitations

The retrospective cross-sectional design limits causal inference. Reliance on documented records may introduce information bias. Facility-based sampling restricts generalizability, and relapse documentation may underestimate episodes occurring outside the rehabilitation facility.

Data Analysis

Data collected were entered into Microsoft excel and analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.0

Ethical Issues

A letter of introduction was obtained from the Chairman, committee of ethical clearance and research planning of the University of Jos and submitted to the center for permission.

RESULTS

Table 1: Socio-demographic Characteristics of Study Participants

Variable	Frequency (n)	Percentage (%)
Male	184	83.6
Female	36	16.4
Single	183	83.2
Married	30	13.6

Values are presented as frequencies and percentages. Mean age = 29.88 ± 8.84 years.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XIII Issue II February 2026

Figure 1: Distribution of Substances of Abuse among Participants

Figure illustrates the relative frequency of alcohol, tobacco, cannabis, and other substances reported among study participants.

Table 3.1: Socio-demographic Profile of Study Participants

Variable	Attribute	Frequency	Percentage (%)
Gender	Male	184	83.6
	Female	36	16.4
Marital status	Single	183	83.2
	Married	30	13.6
	Divorced	3	1.4
	Widowed	4	1.8
Religion	Christianity	195	86.6
	Islam	17	7.7
	Others	8	3.6
Education level	Informal	23	10.5
	Drop-out	36	16.4
	Primary	-	-
	Secondary	14	6.4
	Tertiary	147	66.8
Occupation	Unemployed	130	59.1
	Civil servant	47	21.4
	Self-employed/vocation	27	12.3
	Others	16	7.3
Age	Mean ± Standard deviation	29.88± 8.84	
	Min	14	
	Max	68	

(n=220)

From Table 3.1, the numbers of males in the study were more than females. Seeing as the study considered all the drug addiction cases, and there were no selections made, the percentage of males and females in the study could not be influenced to make it even. Males constituted 83.6% of the cases and females, 16.4%.

The marital statuses of the patients can also be seen in the table, with singles constituting the highest percentage (83.2%). 13.6% of them were married, 1.4% divorced and 1.8% widowed.

As regards religion, Christians constituted 86.6% of the population under study and 7.7% were Muslims.

Concerning their level of education, those who had attained tertiary level of education constituted the highest percentage of the population under study (66.8%), followed by school drop-outs who made up 16.4% 0 the entire population.

The least age of participants was 14 and the highest was 68 years old with a mean of 29.88 and standard deviation of 8.84.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XIII Issue II February 2026

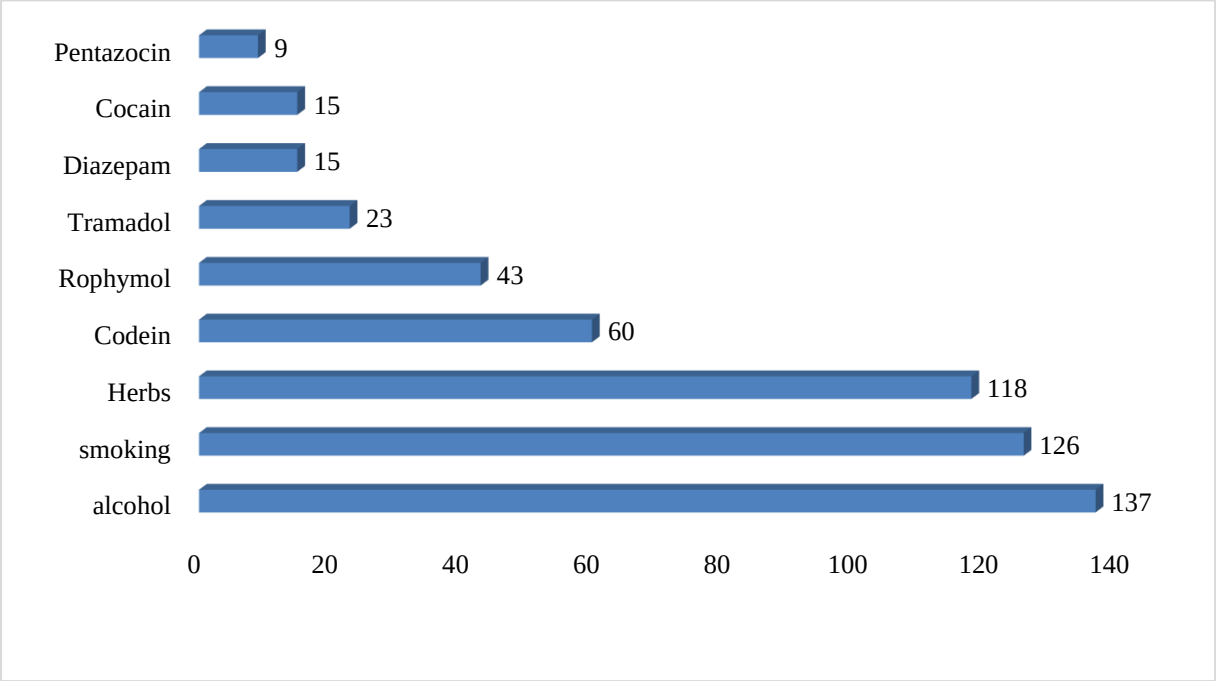
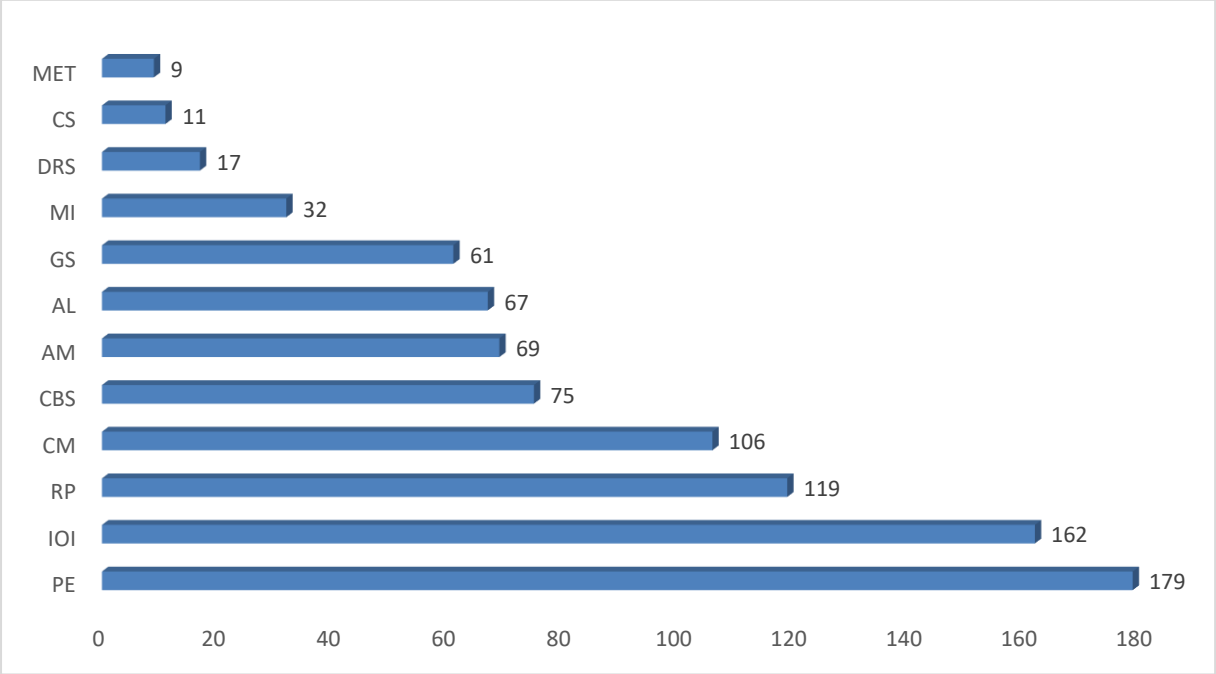


Figure 3.1: Frequency Distribution of Substance Abuse among Participants

Figure 3.1 shows the substances of abuse among the participants and the level of use of these drugs among the participants. The most commonly abused drugs were found to be alcohol, cigarette smoking, and herds (cannabis, weed) and the least commonly used were Diazepam. Cocaine and Pentazocin.

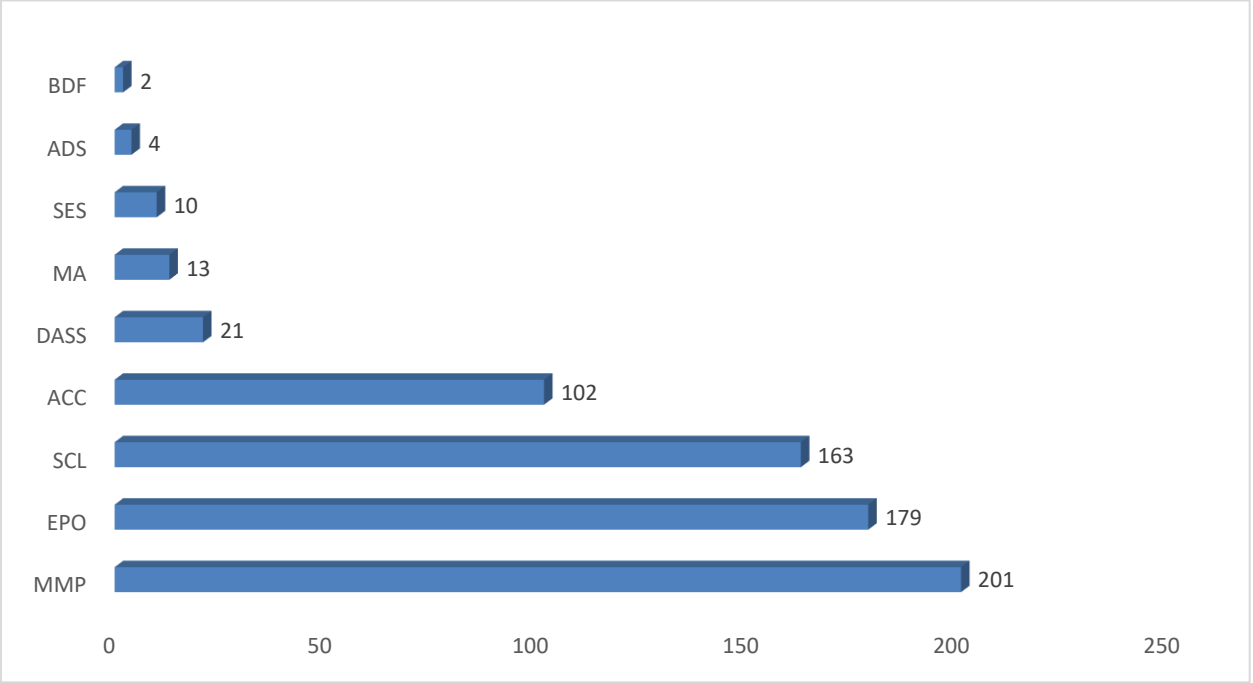


Key: *MET = motivation enhancement therapy, CS = communication skills, DRS = drug refusal skills, MI = motivational interview, GS = goal setting, AT = assertiveness training, AM = anger management, CBT= cognitive behavioral therapy, CM = craving management, RP = relapse prevention, IOT = insight orientation therapy, PE = psycho education.*

Figure 3.2: Mode of Therapy

Figure 3.2 shows the mode of therapy administered to the patients. This also depicts the nature of psychological signs they showed or profiles they had. Although most of them were administered as combinations and not singly, the most commonly administered forms of therapy were PE, IOT and RP. While the least frequently administered forms of therapy were DRS, CS and MET.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XIII Issue II February 2026



Key: *MMPI = Minnesota Multiphasic Personality Inventory, SCL =Symptom Distress Checklist, EPQ = Eysenck Personality Questionnaire, DASS = Depression, Anxiety and Stress Scale, AIC = Assertiveness Inventory Checklist, BDI = Beck Depression Inventory, SES = Self Esteem Scale, NAI = Novaco Anger Inventory, ADS = Alcohol Dependence Scale.*

Figure 3.3: Instrumentation

Figure 3.3 shows the instrumentation used in diagnosis of addiction among the patients. The most commonly used forms of instrumentation are MMPI, EPQ,SCL,and AIC. which were applied in 201,179,163 and 102 cases respectively.

Table 3 2: Outcome of Therapy

Variable		**Descriptive value**
Admission	Mean	1.50±1.01
	Min	0
	Max	8
Relapse	Mean	0.71±1.12
	Min	0
	Max	7

DISCUSSION

This study provides important empirical evidence on relapse trajectories and psychosocial characteristics of adolescents and young adults undergoing substance use rehabilitation in Jos, Nigeria. The marked predominance of males (83.6%) among the study population corroborates extensive evidence from Nigeria and other low- and middle-income countries indicating higher rates of substance use and treatment-seeking among males. Cultural norms that encourage risk-taking, greater social freedom, peer influence, and reduced stigma toward male substance use may partly explain this disparity (Ogunsola & Fatusi, 2016 [18]; Zakiniaeiz & Potenza, 2018) [27]. Nonetheless, the relatively lower proportion of females may also reflect under-reporting and barriers to access care, highlighting the need for gender-sensitive outreach and intervention strategies.

Although the study targeted adolescents, the mean age of participants (29.88 ± 8.84 years) suggests that many individuals-initiated substance use during adolescence but continued to experience dependence into young adulthood. Early onset of substance use has been consistently associated with more severe dependence, poorer psychosocial functioning, and increased relapse risk later in life (Korhonen et al., 2018 [4]; Hatano et al., 2018)

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XIII Issue II February 2026

[6]. This finding reinforces the importance of early preventive interventions during adolescence, particularly within school and family settings.

Alcohol, tobacco, and cannabis emerged as the most commonly abused substances, aligning with national and regional patterns of substance use among Nigerian adolescents (Olawole-Isaac et al., 2018 [17]; Aremu et al., 2018) [19]. These substances are relatively affordable, readily available, and socially tolerated, thereby facilitating early experimentation. In contrast, the low prevalence of cocaine, diazepam, and pentazocin use may be attributed to cost, limited access, and stricter regulatory control. The pattern observed underscores the need for policy-driven control of licit substances, particularly alcohol and tobacco, which often serve as gateway drugs.

Psychosocial interventions formed the cornerstone of treatment at the rehabilitation center, with psychoeducation, insight-oriented therapy, and relapse prevention being the most frequently administered modalities. Evidence supports the effectiveness of these interventions in enhancing motivation, improving self-awareness, strengthening coping skills, and reducing relapse risk (Vujanovic et al., 2020 [20]; Malik et al., 2023) [21]. The frequent use of combined therapies rather than single modalities reflects best practices in addiction management, recognizing the multifactorial nature of substance use disorders.

The extensive use of standardized psychological assessment tools such as the Minnesota Multiphasic Personality Inventory (MMPI) and the Eysenck Personality Questionnaire (EPQ) demonstrates a strong emphasis on comprehensive psychosocial evaluation. Such tools are critical for identifying comorbid psychological distress, personality traits, and behavioral vulnerabilities that may influence treatment outcomes and relapse risk (Saladino et al., 2021) [25]. Their integration into routine clinical practice enhances individualized care planning and therapeutic effectiveness.

The mean relapse rate of 0.71 ± 1.12 per patient, although lower than figures reported in some regional studies, confirms relapse as a persistent challenge in substance use treatment (Kabisa et al., 2021 [23]; National Institute on Drug Abuse, 2018) [22]. Relapse in this population may be driven by psychosocial stressors, poor self-efficacy, peer influence, and inadequate post-discharge support. This underscores the necessity of sustained aftercare, family involvement, community-based support systems, and vocational rehabilitation to consolidate treatment gains.

Overall, the findings highlight that adolescent substance use and relapse are deeply rooted in psychosocial, environmental, and developmental factors. Addressing these complexities requires an integrative, multidisciplinary approach that extends beyond detoxification to long-term psychosocial support and prevention strategies.

The findings confirm the predominance of alcohol, tobacco, and cannabis consistent with national trends. Male predominance may reflect sociocultural norms and reduced stigma toward male substance use, while female underrepresentation may indicate underreporting and access barriers. Relapse determinants likely include peer networks, unemployment, family dysfunction, low self-esteem, and limited structured aftercare. Socioeconomic instability and inadequate integration of addiction services into primary healthcare systems further compound relapse vulnerability.

CONCLUSION

This study demonstrates that substance use disorders among adolescents and young adults in Jos, Nigeria are strongly influenced by psychosocial and demographic factors, with relapse remaining a significant clinical concern. Male predominance, early initiation of substance use, and high reliance on commonly available substances such as alcohol and cannabis characterize the affected population. The predominance of psychoeducation, insight-oriented therapy, and relapse prevention interventions reflects adherence to evidence-based rehabilitation practices. However, the observed relapse rates emphasize the need for strengthened aftercare services, early preventive programs, and family- and community-centered interventions. Policymakers and mental health professionals should prioritize adolescent-focused prevention, gender-responsive services, and sustained psychosocial support to reduce relapse and improve long-term recovery outcomes.

REFERENCES

1. Kpae, G. (2019). Illicit drug abuse and criminal behaviour among adolescent: the rivers state experience. J. of Res. Opin. 6, 2516–2525. doi: 10.15520/jro.v6i10.29 Krohn, M. D., Lizotte, A. J., and Hall, G. P. (2009). Handbook on Crime and Deviance. New York, NY: Springer.
2. Gonzales, N. A., Liu, Y., Jensen, M., Tein, J. Y., White, R. M. B., and Deardorff, J. (2017). Externalizing and internalizing pathways to Mexican American adolescents' risk-taking. Dev. Psychopathol. 29, 1371–1390. doi: 10.1017/ S0954579417000323.
3. Willoughby, T., Good, M., Adachi, P. J. C., Hamza, C., and Tavernier, R. (2014). Examining the link between adolescent brain development and risk-taking from a social-developmental perspective (reprinted). Brain Cogn. 89, 315–323. doi: 10.1016/j.bandc.2013.09.008.
4. Korhonen T, Sihvola E, Latvala A, Dick DM, Pulkkinen L, Nurnberger J, et al. Early-onset tobacco use and suicide-related behavior – a prospective study from adolescence to young adulthood. Addict Behav. 2018; 79:32–8.
5. Saladino V, Mosca O, Petruccelli F, Hoelzlhammer L, Lauriola M, Verrastro V and Cabras C (2021) The Vicious Cycle: Problematic Family Relations, Substance Abuse, and Crime in Adolescence: A Narrative Review. Front. Psychol. 12:673954. doi: 10.3389/fpsyg.2021.673954
6. Hatano, K., Sugimura, K., and Schwartz, S. J. (2018). Longitudinal links between identity consolidation and psychosocial problems in adolescence: using bi factor latent change and cross-lagged effect models. J. Youth Adolesc. 47, 717–730. doi: 10.1007/s10964-017-0785.
7. Frobel, W., Grafe, N., Meigen, C., Vogel, M., Hiemisch, A., Kiess, W., & Poulain, T. (2022). Substance use in childhood and adolescence and its associations with quality of life and behavioral strengths and difficulties. *BMC public health*, *22*(1), 275. https://doi.org/10.1186/s12889-022-12586-2
8. Stevanovic D, Atilola O, Balhara YPS, Avicenna M, Kandemir H, Vostanis P, et al. The relationships between alcohol/drug use and quality of life among adolescents: an international, cross-sectional study. J Child Adolesc Subst Abuse. 2015;24:177–85. https:// doi. org/ 10. 1080/ 10678 28X. 2013. 773864.
9. Essex HN, White IR, Khadjesari Z, Linke S, McCambridge J, Murray E, et al. Quality of life among hazardous and harmful drinkers: EQ-5D over a 1-year follow-up period. Qual Life Res. 2014;23:735–45. https:// doi. org/ 10. 1007/ s11136- 013- 0521-7.
10. McKay, J. R. (1991). Family dysfunction and alcohol and drug use in adolescent psychiatric inpatients.
11. Eze, E.T., Amadi, F.A., Justice, N, C. (2024). Social media usage and drug abuse among youths in Port Harcourt. International Journal of Mass Communication and Linguistics Studies. Volume 13, Number 3, pp 82-98. ISSN: 386X - 4100
12. Bohnert KM, Ilgen MA, Louzon S, McCarthy JF, Katz IR. Substance use disorders and the risk of suicide mortality among men and women in the Us veterans' health administration Addiction. 2017; 112:1193–201
13. Opakunle, Tolulope; Opakunle, Olubukola[1]; Toki, Damilola[2]; Aloba, Olutayo[3]; Nwozo, Chioma. Drug Abuse among Nigerian High-School Adolescents: Exploring the Relationship with Problematic Internet Use, Suicidality, Anxiety, Depression, and Self-esteem. International Journal of Medicine and Health Development 27(3): p 277-284, Jul–Sep 2022. | DOI: 10.4103/ijmh.IJMH_17_22
14. Chinawa JM, Obu HA, Manyike PC, Obi IE, Israel OO, Chinawa AT. Self-esteem among adolescents in Nigerian secondary schools: A neglected issue Br J Med Med Res. 2015; 5:98–106
15. Erikson, E. H., andErikson, J. M. (2018). I Cicli Della Vita. Continuità e Mutamenti. Roma: Armando Editore.
16. Gurung A, Shrestha N, Silwal M, Gurung R, Ojha S. Prevalence of Substance Use and Associated Factors Among High School Adolescents in Rithepani Lekhnath-2 kaski Nepal J Gandaki Med College-Nepal. 2017; 10:43–8
17. Olawole-Isaac A, Ogundipe O, Amoo EO, Adeloye D. Substance use among adolescents in sub-Saharan Africa: A systematic review and meta-analysis South African J Child Health. 2018;12:s79–s84
18. Ogunsola OO, Fatusi AO. Risk and protective factors for adolescent substance use: A comparative study of secondary school students in rural and urban areas of Osun State Nigeria Int J Adol Med Health. 2016;29:3–14

19. Idowu A, Aremu AO, Olumide A, Ogunlaja AO. Substance abuse among students in selected secondary schools of an urban community of oyo-state south west Nigeria: Implication for policy action Afr Health Sci. 2018;18:776–85
20. Vujanovic A.A., Smith L.J., Green C., Lane S.D., Schmitz J.M. Mindfulness as a predictor of cognitive-behavioral therapy outcomes in inner-city adults with posttraumatic stress and substance dependence. Addict. Behav. 2020;104:106283. doi: 10.1016/j.addbeh.2019.106283.
21. Malik, N. I., Saleem, S., Ullah, I., Rehan, S. T., De Berardis, D., & Atta, M. (2023). Psychosocial Factors Affecting Drug Relapse among Youth in Punjab, Pakistan. *Journal of clinical medicine*, *12*(7), 2686. https://doi.org/10.3390/jcm12072686
22. National Institute on Drug Abuse . Drugs, Brains, and Behavior: The Science of Addiction. National Institute on Drug Abuse; Bethesda, Maryland: 2018.
23. Kabisa, E., Biracyaza, E., Habagusenga, J.d. *et al.* Determinants and prevalence of relapse among patients with substance use disorders: case of Icyizere Psychotherapeutic Centre. *Subst Abuse Treat Prev Policy* **16**, 13 (2021). https://doi.org/10.1186/s13011-021-00347-0
24. Werner C.T., Altshuler R.D., Shaham Y., Li X. Epigenetic mechanisms in drug relapse. Biol. Psychiatry. 2021;89:331–338. doi: 10.1016/j.biopsych.2020.08.005.
25. Kothari, C. and Garg, G. (2014) Design of Sample Surveys in Research Methodology: Methods and Techniques. New Age International Publishers, Delhi, 59-61.
26. Wang, X., & Cheng, Z. (2020). Cross-Sectional Studies: Strengths, Weaknesses, and Recommendations. *Chest*, *158*(1S), S65–S71. https://doi.org/10.1016/j.chest.2020.03.012
27. Zakiniaeiz, Y., & Potenza, M. N. (2018). Gender-related differences in addiction: a review of human studies. *Current opinion in behavioral sciences*, *23*, 171–175. https://doi.org/10.1016/j.cobeha.2018.08.004