

Feasibility Study of Assist-Linked Brief Intervention for Substance Use Disorders in a Rural Community of Plateau State, Nigeria

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Abstract

Objective: We studied the feasibility of using Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) linked with Brief Intervention (ALBI) in treating Substance Use Disorder in Nigeria. There is a clear gap in meeting the needs for treatment and care for people with drug use disorders in Nigeria with many users reporting a self-perceived need for treatment and about 40% of them wanting to receive drug treatment but were unable to access such services. **Methods:** ASSIST questionnaire was used to gather baseline data, and ALBI along with Motivational Interviewing (MI) was used to intervene for 6 weeks following which ASSIST score was repeated and compared with baseline. **Results:** Majority of the participants were aged 21 - 30 years, mostly males with (61.3%) lacking steady jobs. Lifetime prevalence of any drug use was (88.2%). Three months prevalence was nicotine (72.0%), alcohol (66.7%), cannabis (47.3%), opioids (11.8%) among others. The ASSIST scores were mostly on the severe ranges. ASSIST result after six weeks showed marked reduction. The Mean Difference (MD) in the ASSIST scores after intervention was significant for tobacco, opioids, alcohol, and cannabis. The Cohen's D effect size was large for tobacco (1.08), alcohol (0.92) and cannabis (0.73) but low for other substances. **Conclusion:** ALBI along with MI was helpful in combating the menace of substance use.

Keywords

ASSIST, ALBI, SUD, Rural Community, Nigeria

1. Introduction

Substance use is the most common health risk behavior among adolescents and is one of the greatest threats to their current and future health [1]. In the 21st century Nigeria, many people aged 15 - 64 years are increasingly involved in the use of substances [2]. A National Survey on Drug Use and Health was conducted by the National Bureau of Statistics (NBS) and the Centre for Research and Information on Substance Abuse (CRISA) with technical support from the United Nations Office on Drugs and Crime (UNODC) in 2018 [2]. This was the first comprehensive nationwide national drug use survey to be conducted in Nigeria and reflected the past year use of psychoactive substances in Nigeria. In the report, the past year prevalence of any drug use in Nigeria was estimated at 14.4%, almost three times higher than the global average of 5.6% in 2016. Drug use in Nigeria was most common among those who were between the ages of 25 and 39 years, while the rates of past year use were the lowest among those who were below 24 years of age. Excluding alcohol, cannabis was the most commonly used drug followed by opioids (mainly the non-medical use of prescription opioids and cough syrup). Poly-drug use is a fairly common phenomenon among drug users in Nigeria both in the general population and among high-risk drug users.

A scoping review in Nigeria in 2021 reported a prevalence of 20% - 40% and 20.9% of drug abuse among students and youths, respectively [3]. Commonly abused drugs in the study included cannabis, cocaine, amphetamine, heroin, diazepam, codeine, cough syrup and tramadol [3]. Poor socioeconomic factors and low educational background were the common risk factors associated with drug abuse. Furthermore, one in five drug users in Nigeria is dependent, one in three cannabis users is dependent, one in five pharmaceutical opioid users is dependent, and one in seven amphetamine drug users is dependent [2]. Nearly one quarter of high-risk drug users had been arrested for a drug-related offence during the course of their drug use, while the majority (73%) had been arrested for possession of drugs. Many high risk drug users had also been arrested for burglary, sex work, shoplifting and theft. Nearly 1 in 8 persons in the general population in Nigeria had experienced consequences due to other peoples' drug use in their families, workplace and communities aside the social consequences experienced by the high risk drug users.

There is a clear gap in meeting the needs for treatment and care for people with drug use disorders in Nigeria [2]. Two-thirds of high-risk drug users reported a self-perceived need for drug treatment. About 40% of those that had wanted to receive drug treatment were unable to access such services. The cost of treatment, stigma associated with accessing such services as well as stigma associated with substance use in general, and poor availability of adequate drug treatment services were the major barriers in accessing drug treatment in Nigeria. However, the situation is not too different from other regions of the world as a study reported that most Americans with diagnosable Substance Use Disorders (SUD) never receive treatment but postulated that it is because they never rec-

ognize the extent of their problem and never sought treatment [3] [4].

2. Literature Review

Patients with Substance Use Disorder (SUD) have high rates of comorbidity with mental illness [5] [6] [7] and experience chronic illness at twice the rate of the general population [5] [6] [7] [8]. They are also at greater risk of infectious and sexually transmitted diseases; involvement with the criminal justice system; employment issues; and unintentional death from accidents, overdose, or suicide [4] [9] [10]. Data suggest that between 40% and 99% of people who need treatment do not get the desired treatment [7] [11] [12] [13]. Some patients who need treatment may not feel ready to stop using [5] [11] [12], but there are also systemic issues that keep patients who are ready from getting the help they need. Barriers that prevent access to SUD treatment include the lack of understanding of SUDs on the parts of the client, families and their communities. Also stigma around substance-using individuals by the public as well as medical providers, a lack of coordinated and integrated care, and insufficient training for practitioners on these topics were major barriers to assessing treatment [2] [5] [7] [12] [14]. Additionally, the lack of integration between healthcare and substance use treatment makes it difficult for motivated patients to know where to seek help [5] [7] [11] [13]. The misconception of SUD as a moral failure further discourages clients from reaching out for help [2].

Effectiveness of ASSIST-Linked Brief Intervention for SUD

World Health Organization (WHO) developed a comprehensive package named WHO Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST)-linked brief intervention (ALBI) to tackle SUD issues [15] [16]. Brief Interventions (BI) are used to initiate change for an unhealthy or risky behavior such as smoking, lack of exercise, alcohol or substance use. It was typically targeted to non-dependent substance users who might be experiencing problems but are not seeking treatment [17]. There is evidence suggesting that brief treatment interventions may work for drugs such as cannabis, benzodiazepines, opioids, and cocaine, but these studies often include multiple sessions, lasting between 30 and 90 minutes [18]. ALBI is based on components of BI from the feedback, responsibility, advice, menu of options, empathy, self-efficacy (FRAMES) model and motivational interviewing which has convincing research support for its efficacy [10] [16] [19]-[26].

The basic goal of any BI is to reduce the risk of harm that could result from continued use of substances. The specific goal for each individual client is determined by his consumption pattern, the consequences of his use, and the setting in which the brief intervention is delivered. A meta-analysis of 23 studies has shown that alcohol BIs in primary care are indeed related to self-reported drinking reductions, but result in few other health or service utilization outcome differences; effects of intervention were stronger in studies where patients received multiple BI contacts in primary care [3] [27]. When combined with mo-

tivational interviewing, BI helps them to resolve ambivalence and positively influence their motivation to change. Intermediate goals might include quitting one substance, decreasing frequency of use, or attending a group meeting [28].

Evidence [14] [29] suggest that effective screening protocols (sensitive instrument, trained personnel and suitable environment) that are client centered, simple to use and integrated into existing protocols such as referral and treatment are effective in combating binge drinking and even other substance use [30] [31] [32]. Literature also suggested that BI along with Motivational Interviewing has proven efficacy for individuals from marginalized and minority groups [33] [34]. The impact increases if conducted in the clients background and preferences, discussing the client's family, social and environmental context, has a community based approach and possibly led by the community resources [33] [34]. In a study carried out in 2002, it was reported that 4 - 16 sessions of Brief Intervention is able to bring about substantive improvement in multiple disorders [35]. Other studies indicated that randomizing patients to BIs for cocaine, heroin, and prescription drugs did result in drug use reductions [3] [22] [36]. The World Health Organization conducted a four-nation randomized controlled trial in which each nation developed its own culturally appropriate single session brief intervention using the FRAMES model [3] [37]. This study demonstrated that brief intervention did result in 3-month self-reported reductions of cannabis, cocaine, and heroin use relative to an assessment-only control, although these effects were not demonstrated in the U.S.^{3,38} Some studies conducted between one to 3 sessions BI failed to show effectiveness at reducing hazardous or harmful drinking [3] [38] [39] and raised concern about long term efficacy of ALBI.

Several authors examined effect multisession BI and reported significant results. Four sessions of expanded brief intervention approaches such as Motivational Enhancement Treatment (MET) have been demonstrated to be as effective as 12 sessions of cognitive-behavioral therapy (CBT) or 12-step facilitation treatment for the treatment of alcohol [3] [40] [41]. Similarly, brief cognitive-behavioral approaches (1 - 6 sessions) have been demonstrated to be effective in the treatment of amphetamines, cannabis, and cocaine on some measures but not all, and again, more sessions seem to result in better outcomes [3] [42] [43] [44]. Most of the studies recommended further studies on the implementation of a multi-session brief intervention for substance use disorders as it appeared to have promising results.

3. Objectives of the Study

The study set out to ascertain the feasibility of using ALBI to treat SUD in Nafok community of BarkinLadi Local Government Area of Plateau state, Nigeria.

4. Justification of the Study

Many of the young men and women in Nafok Community were identified to be

drifting into a life of substance use and its attendant complications such as health, crime, legal and social were prominent. They were losing interest in education, living unproductive lives and those that were married were increasingly unable to provide for their families and maintain their marriages. Also, people with substance use disorders have high rate of comorbidity with mental illness [5] [6] [7]. Majority were interested in getting help but could not afford to, either due to lack of funds or unavailability of professional help around their locality. There was total lack of a government owned treatment facility for SUD in the district as well as the Local Government area. Existing facilities were over 100km away from the community. Other barriers towards getting treatment could be lack of understanding of SUD and stigma around substance-using individuals [5] [8] [13] [14]. There was need to breach this gap and prevent further deterioration in the lives of the individuals and the attendant effect on the community.

5. Materials and Methods

5.1. Setting

The study location was Nafok Community of Foron District in BarkinLadi Local Government Area of Plateau state, North Central Nigeria. The district lies approximately between latitudes 9°39" and 9°50" North and longitudes 8°54" and 9°9" East and covers a land area of about 850 sq·km [32]. The district like most rural areas of Nigeria is devoid of adequate socio-economic opportunities and infrastructural facilities and lack of trained personnel that can deal with their substance use and health challenges [45].

5.2. Study Population

The study population consisted of men and women of the community who were gathered by a youth focused Non-Governmental Organization (NGO) called "AYE-IZOK INITIATIVE" with the intention of educating youths against the dangers of substance use and assisting those who are already having substance use related problems via an outreach program. The organization has members drawn from the community and beyond who felt an urgent need to change the narrative in terms of the substance use.

5.3. Design

We embarked on cross-sectional, two staged comparative assessment and ASSIST-linked Brief Intervention (ALBI) [13] of the study participants.

5.4. Instruments

A demographic questionnaire designed by the researchers was used to gather information such as gender, age, educational status, religion, marital status and occupation. The World Health Organization (WHO) Alcohol, Smoking and Substance Involvement Screening Test, (ASSIST) version 3.0⁴⁷ was used to obtain information on lifetime use and 3-months prevalence of substances of abuse, se-

verity of involvement and to plan a twice weekly, six-week long, client centered intervention. The assessment was repeated after six weeks and the mean scores compared to evaluate the effect of the intervention.

5.5. Procedure

Convenient samplings of the Nafok Community young men and women who turned out for the outreach program, got a health talk on the effects of substance use and consented to the study were carried out. The researchers comprised individuals who are academically qualified, have been involved in substance use disorder treatment, rehabilitation and research, and have completed the Universal Treatment Curriculum (UTC) training for substance use practitioners based on the Colombo Drug Acquisition Plan [46].

5.6. Inclusion criteria

Men and women aged 18 years and above who consented to the study.

5.7. Exclusion Criteria

Those who have been previously diagnosed of mental illness prior to onset of substance use, those who are already receiving treatment elsewhere for SUD and those who did not consent to the study were excluded.

5.8. Ethical Consideration

Ethical clearance was obtained from the Jos University Research Ethics Committee (NHREC/JUTH/05/10/22). Human data were performed in accordance with the Declaration of Helsinki. Permission was gotten from the Community head of Nafok and District head of Foron before embarking on the study. No sponsorship whatsoever was gotten.

5.9. Data Collection

On the first day, an outreach was held for the general community on the dangers of substance use and how to identify early warning signs and symptoms. They were asked to mobilize those that they believe will benefit and are willing for the subsequent events. No form of inducement was used or provided to the participants, and their confidentiality was ensured. On the second day of the outreach, the demographic and ASSIST questionnaire were administered and analyzed and each client was debriefed about his/her score and the clinical implication. ALBI treatment plan was drawn along with the client and areas of targeted brief intervention clearly identified along with the client. These were followed through twice weekly for six weeks after which the ASSIST questionnaire was re-administered to the participants to evaluate the outcome.

5.10. Data Analysis

Information gathered were cleaned up, fed into and analyzed using the Statistical

Package for Social Sciences (SPSS) version 26 [47]. The mean ASSIST score was calculated at baseline and after intervention. The mean difference was calculated and the Cohen's *d* effect size calculated. A *t*-test was performed to detect any differences between the baselines and post intervention scores. The level of significance was set at <0.05 .

6. Results

6.1. Participants' Characteristics

There were 93 people who participated in the study (95.7% males and 4.3% females). Their age range was 18 - 55 years with a mean age of 29.32, *SD* = 8.29. Majority of the participants were within age range of 21 - 30 years (52.7%). A greater percentage, (75.3%) of them was of Berom ethnicity and largely Christians, (93.5%). More than half, (65.6%) of the participants had up to high school education and over half of them identified as casual laborers, (61.3%) (Table 1).

6.2. Prevalence and Severity of Substance Use Involvement

The lifetime prevalence of any substance use was (88.2%). Three months prevalence were nicotine (72.0%), alcohol (66.7%), cannabis (47.3%), opioids (11.8%), sedatives (5.4%), surkurdi (methylene chloride) (3.2%), cocaine (2.2%), and amphetamine (1.1%). There was an overwhelming strong desire to use substance daily in about (45.2%). Various consequences of the substance use habit were reported to have been occurring on daily or almost daily basis. More than half of the participants (63.4%) have tried severally either to cut down or quit use in the last 3 months but has been unable to succeed and majority has equally had failed attempts in the past (Table 2).

6.3. ASSIST Score and Effect of Brief Intervention

Across the ten classes of substances captured in the ASSIST questionnaire, the scores of the participants at baseline were mostly in the severe ranges. The Mean Difference (MD) in the ASSIST scores after intervention were significant for tobacco (MD = 12.58, *t* = 9.60, *p* = 0.001), opioids (MD = 0.13, *t* = 3.38, *p* = 0.001), alcohol (MD = 0.59, *t* = 9.05, *p* = 0.001) and cannabis (MD = 0.46, *t* = 6.37, *p* = 0.001). The Cohen's *D* effect size was large for tobacco (1.08), alcohol (0.92) and cannabis (0.73) but low for other substances based on Cohen's guidelines [48] (Table 3).

6.4. Discussion

Lifetime use and current use of substances were high among the participants. This was similar to previous studies [49]. Negative consequences recorded included dizziness, confusion, seizures and tremors, feeling sad and depressed and trouble sleeping. They also reported getting into arguments or fights with family members especially after stealing from them to fund their substance use habit. Equally, they reported losing previously close friends and inability to do most

Table 1. Participants characteristics.

Variable	frequency	Percentage (%)
Age		
≤20 years	5	5.4
21 - 30 years	49	52.7
31 - 40 years	31	33.3
41 - 50 years	5	5.4
51 - 60 years	3	3.2
Total	93	100.0
Gender		
Male	89	95.7
Female	4	4.3
Total	93	100.0
Occupation		
Student	9	9.7
Farmer	16	17.2
Civil servant	6	6.5
Laborers	57	61.3
Unemployed	5	5.4
Total	93	100.0
Marital status		
Not married	54	58.1
Married	39	41.9
Total	93	100.0
Ethnicity		
Berom	70	75.3
Arum	6	6.5
Others	17	18.3
Total	93	100.0
Religion		
Christianity	87	93.5
Islam	6	6.6
Total	93	100.0
Educational level		
Primary	11	11.8
Secondary	61	65.6
Tertiary	20	21.5
None	1	1.1
Total	93	100.0

Table 2. Prevalence of substance use and correlates.

Variable	Frequency	Percentage (%)
Use of substance		
Yes	82	88.2
No	11	11.8
Total	93	100.0
Fathers use of substances		
Yes	39	41.9
No	54	58.1
Total	93	100.0
Mothers use of substances		
Yes	4	4.3
No	89	95.7
Total	93	100.0
Family history of mental illness		
Yes	18	19.4
No	75	80.6
Total	93	100.0
Injecting drugs		
Never	83	89.2
Yes(in the past 3 months)	2	2.2
Yes(not in the past 3 months)	8	8.6
Total	93	100.0
Frequency of use of substances		
Never	7	7.5
Once or twice	14	15.1
Monthly	10	10.8
Weekly	16	17.2
Daily or almost daily	46	49.5
Total	93	100.0
Strong desire to use substances		
Never	14	15.1
Once or twice	17	18.3
Monthly	5	5.4
Weekly	15	16.1
Daily or almost daily	42	45.2
Total	93	100.0

Continued

Reported consequences due to drug use		
Never	32	34.4
Once or twice	13	14.0
Monthly	7	7.5
Weekly	14	15.1
Daily/almost daily	27	29.0
Total	93	100.0
Failed to do activities		
Never	42	45.2
Once or twice	19	20.4
Monthly	7	7.5
Weekly	6	6.5
Daily/ almost daily	19	20.4
Total	93	100.0
Family/relatives concerned about drug use		
Never	10	10.8
Yes (not in the past 3 months)	20	21.5
Yes (in the past 3 months)	63	67.7
Total	93	100.0
Failed to control/cut down		
Never	12	12.9
Yes (not in the past 3 months)	22	23.7
Yes (in the past 3 months)	59	63.4
Total	93	100.0

Table 3. ASSIST score and six week's Brief Intervention outcome.

Substance	N	BASELINE					6 - WEEKS					t test	Mean diff	Effect size	
		ASSIST score	Mean	SD	SE	ASSIST score	Mean	SD	SE						
Tob	67	Mild	1				Mild	0							
		Mod	27	19.11	13.78	1.43	Mod	25	6.53	9.02	0.93	9.60	12.58*	1.08	
		Severe	39				Severe	7							
Opi	11	Mild	0				Mild	0							
		Mod	5	1.18	0.53	0.55	Mod	5	1.05	0.23	0.23	3.38	0.13*	0.32	
		Severe	6				Severe	0							
Alc	62	Mild	5				Mild	0							
		Mod	20	1.82	0.76	0.70	Mod	18	1.23	0.48	0.49	9.05	0.59*	0.92	
		Severe	37				Severe	2							

Continued

Can	44	Mild	2	1.65	0.78	0.08	Mild	0	1.17	0.45	0.47	6.37	0.46*	0.73
		Mod	18				Mod	10						
		Severe	25				Severe	3						
Coc	2	Mild	0	1.02	0.20	0.02	Mild	1	1.01	0.10	0.10	1.00	0.02	0.11
		Mod	1				Mod	1						
		Severe	1				Severe	0						
Amph	1	Mild	0	1.02	0.20	0.02	Mild	0	1.00	0.00	0.00	1.00	0.02	0.14
		Mod	0				Mod	0						
		Severe	1				Severe	0						
Sedat	5	Mild	0	1.08	0.38	0.03	Mild	0	1.02	0.14	0.11	2.16	0.06	0.21
		Mod	2				Mod	2						
		Severe	3				Severe	0						
Others	3	Mild	0	1.05	0.36	0.03S	Mild	0	1.01	0.10	0.10	1.64	0.04	0.16
		Mod	1				Mod	1						
		Severe	2				Severe	0						

*P = 0.001.

things they used to do in other to find, use or recover from the use of substances. A few had several arrests and detention for illegal possession of substances or have complaints filed against them at the community council [50]. The few that were married have not been able to provide for the family financially in a long term. The desire to do meaningful jobs was lost and even those that were employed in one form of civil service has severally missed work without cogent reason and have received several negative comments from colleagues in their workplace. This agrees with previous studies validating ASSIST questionnaire [46]. This finding was in agreement with previous studies among substance users who clearly identify their use as undesirable but still could not stop [7] [14] [51]. Majority had tried to quit or cut down on their own but the cravings were usually unbearable and kept them going in and out of substance use and they lacked skills on how to deal with the urge. Colleagues, previous friends and family members have severally expressed concerns about their substance use lifestyle. They recognized that they needed help but could not get help mainly due to lack of finance and/or due to unavailability of treatment centers close to their community. This is in agreement with previous studies among similar populations [7] [9] [13] [16]. They felt people in the community see their behavior as a form of moral failure. This gave rise to stigma towards them and their family. This finding is similar to reports from studies that also reported stigma as a major factor that prevents users from getting treatment help desired [7] [9] [11] [15].

High lifetime prevalence of substance use could be due to the fact that it is culturally accepted, is a trending behavior among the younger generation and may not be unconnected with the recurrent ethno religious crisis in the state in the last two decades. However further studies might be necessary to validate or refute this. High 3-month prevalence may indicate that the substance use was an active behavior in the community. Nicotine (tobacco), alcohol and cannabis were the most used substances in that order. Similar trends have been reported in other studies [52] [53] that found the three as the commonly used substances among youths with slight variation in the order. However a study of communities in Jos South Local Government area [53] reported opioids as displacing nicotine and cannabis out of the first three most used substances. Variations in types of substances and pattern of use from place to place has been documented [54] in a previous research work and depends on location, availability and age range considered. However the UNODC drug survey in Nigeria found cannabis as the most used substance nationwide [2].

Males forming the larger part of the participants go to support the global and cultural belief that substance use is more of a male habit than the females. The age range mostly affected was 21 - 40 years with a peak between 21 - 30 years. This is quite worrisome as these are the most productive age range and expected to form the workforce of the community, especially as their major occupation was farming. If this is juxtaposed with the finding that majority of the participants had no identifiable occupation but only do menial jobs with minimal pay, probably just enough to fund their substance using lifestyle, it portends imminent danger.

Majority of the participants met the criteria for dependence on the various substances. Their ASSIST scores were mostly in the severe ranges. Ordinarily most should be referred for rehabilitation. However, the study sought to test if ALBI combined with Motivational Interviewing could stimulate positive change in substance using behavior and how effective it could be. The finding was very encouraging as significant mean difference was recorded between the baseline ASSIST score and after 12-sessions of ALBI combined with Motivational Interviewing for nicotine (tobacco), opioids, alcohol and cannabis.

6.5. Limitation

This was a one community study and cannot be generalized. There is need to replicate this study in other settings to possibly validate or refute the findings made.

7. Conclusion

In situations where facilities are not enough to cater for the teeming population of SUD clients, where cost of treatment is high and out of pocket payment is the order of the day, health personnel and organizations interested in combating this menace could find ALBI a credible method to use.

8. Recommendation

If ALBI for substance use treatment could be integrated into Primary Healthcare in Nigeria, it will make it easy for motivated clients to know where to seek help and probably at a location close to them and at a cheaper rate. We recommend training and retraining of health personnel and NGO workers particularly those working in remote communities on how to assess and provide ALBI along with Motivational Interviewing to help in combating the menace of substance use and possibly help reduce the prevalence of substance use disorders with its attendant consequences. A linkage model between treatment centers (government and private) and Primary Health Care Centers Nigeria could be an easy approach to actualizing such innovation.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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