

Pilot Training of Stakeholders on Alternatives to Incarceration for People Who Use Drugs in Contact with the Criminal Justice System in Nigeria: Lessons Learned and Future Directions

AGWOGIE, M. O.¹, AMANKWAAH, D.², KOOMSON, S. E. N.³

1 | Global Initiative on Substance Abuse (GISA), Lagos, Nigeria

2 | Economic Community of West African States (ECOWAS) Commission, Abuja, Nigeria

3 | Narcotics Control Commission, Accra, Ghana

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BACKGROUND: Studies have reported a high prevalence of substance misuse among people who use drugs (PWUD) in contact with the Criminal Justice System (CJS) in Nigeria. Further, there is limited access to treatment resulting in high rates of relapse and recidivism. The development of Alternatives to Incarceration (ATI) is one effort to address these gaps. This paper report findings from the pilot training on ATI in Nigeria. **AIMS:** The aims of this study were to (1) consider the feasibility of implementing ATI in Nigeria; (2) determine whether the programme was delivered as designed; (3) determine whether training objectives were met; (4) highlight connections between the Community of Practice (CoP) model and essential components of the implementation process; and (5) assess trainer proficiency. **METHODS:** Instruments included a pre- and post-training knowledge assessment and a post-

training survey adapted from the ATI and Universal Prevention Curriculum (UPC) manuals that included several open-ended questions and a trainer proficiency survey. **PARTICIPANTS:** Participants (N = 36; 53% male) were stakeholders drawn from CJS and treatment, and Civil Society Organisations (CSOs) who participated in a 4-day training held in Lagos State. **RESULTS:** 35 (97%) of the participants completed both the pre- and post-test survey. The difference in the mean scores demonstrated statistically and practically significant gains in foundational knowledge. All participants agreed on the feasibility of implementing ATI in Nigeria and that the course was relevant to their practice. Further, the curriculum was implemented as designed and objectives were met. All facilitators were ranked as “proficient”. **CONCLUSION:** Using Alternatives to Incarceration appears to be a promising intervention in Nigeria.

Keywords | Substance Use Disorders, Criminal Justice System, Alternatives to Incarceration, Treatment, Recidivism, Prison, Nigeria.

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Corresponding author | Martin O. Agwogie, PhD, Global Initiative on Substance Abuse (GISA)
17 Ayodele Fanoiki Street, Magodo Phase 1, ISheri, Lagos State, Nigeria

agwomart@yahoo.com

1 INTRODUCTION

People who use drugs (PWUD) experience multiple drug-related issues, including the development of substance use disorders (SUDs) (National Institute on Drug Abuse [NIDA], 2018; Kalin, 2020), limited access to treatment (Almanzar et al., 2015; Nwefoh et al., 2020), craving-induced criminal activities (Enebe et al., 2025; Kinyanjui & Atwoli, 2013), criminal activities under the influence of drugs (Agboola et al., 2017; United Nations Office on Drugs and Crime [UNODC] and World Health Organization [WHO], 2019), frequent contact with the criminal justice system (CJS) (Csete et al., 2016) and unpleasant prison environments (Olutola, 2017; UNODC & WHO, 2019). Substance use disorders are among the most common health problems of people in contact with the CJS (Clark et al., 2017; Emilian et al., 2025; Mundt et al., 2018). People with SUDs enter the CJS for different types of offences, and most of these offences are linked with their substance use (Enebe et al., 2025; UNODC & WHO 2019).

Studies have reported high prevalence of substance use among prison inmates in Nigeria (Abuchi & Bassey, 2018; Agboola et al., 2017; Ugwuoke & Otodo, 2016) with high rate of recidivism and re-uptake of substance use among ex-prison inmates (Abuchi & Bassey, 2018). Imprisonment has been reported to have a more pronounced criminogenic effect on offenders who use drugs than on other types of offenders (Plettinckx et al., 2018; Spohn & Holleran, 2002) with other unintended negative consequences for both offenders and society (Mitchell et al., 2017). Hence, there is a growing global shift from unnecessary imprisonment as a form of social control to the adoption of alternatives to incarceration (ATI) for PWUD in contact with the CJS (Clark et al., 2017; Olutola, 2017). This shift has been reported to both reduce substance use and recidivism (Tomaz et al., 2023).

1.1 Alternatives to Incarceration (ATI)

ATI is a short description of Alternatives to Incarceration for people who use drugs in contact with the CJS. It also refers to “treatment and care for people with drug use disorders in contact with the criminal justice system: Alternatives to conviction or punishment” (UNODC & WHO, 2019) and “as measures of the criminal justice system taking place outside prison” (European Monitoring Centre for Drugs and Drug Addiction [EMCDDA], 2015).

The concept of ATI was developed based on the Commission on Narcotic Drugs Resolution 58/5, entitled “Supporting the collaboration of public health and justice authorities in pursuing alternative measures to conviction or punishment for appropriate drug related offences of a minor nature” (UNODC & WHO, 2019). ATI programmes involve collaboration between the CJS and the health-care system. They offer individuals with SUDs the opportunity to receive treatment. The CJS’s actions depend on whether the individual accepts treatment and the circumstances surrounding their contact with the CJS (UNODC & WHO, 2019). Drug-related alternatives to prison includes ‘referral to treatment’, ‘probation’, ‘conditional release’, ‘mediation in criminal cases’, ‘community service’ and ‘electronic monitor-

ing’ (Plettinckx et al., 2018; Tomaz et al., 2023). These alternatives cut across pre-arrest, criminal proceeding and post-sentencing proceeding stages (Police Treatment and Community Collaborative, 2017; UNODC & WHO, 2019). Details of expectations of operators at each of these stages are available in UNODC & WHO, (2019) and Tomaz et al. (2023).

1.2 Burden of SUDs among prison inmates

Studies have revealed a high prevalence of PWUD in the prison settings across countries of the world (Enebe et al., 2025; Kinyanjui & Atwoli, 2013) and continued drug use within the prison setting (Mumola et al., 2004; Ugwuoke & Otodo, 2016). For example, in a review of substance use among prison inmates in low- and middle-income countries, Mundt and colleagues reported a pooled prevalence of 25% use of illicit substances during imprisonment (Mundt et al., 2018). Three other reviews reported pooled prevalences of substance use among prison inmates to be between 21 and 51% (Fazel et al., 2006; 2017; Lovett et al., 2019) and significantly higher than the general population (Emilian et al., 2025). The situation is not different in Nigeria. A recent study estimated lifetime and current (past month) prevalence of substance use among prison inmates at 76.7% and 33.7%, respectively (Enebe et al., 2025). Earlier studies reported above 60% prevalence (Favril, 2023; Okoro et al., 2020), higher than life-time prevalence rates in the general population (Enebe et al., 2025; Lawal et al., 2025; UNODC, 2018).

Despite the high population of PWUD in prisons and continued substance use within the prison setting, there are substantial unmet treatment needs among this population (Almanzar et al., 2015; Clark et al., 2017). Additionally, SUDs in the prison setting increases the risk of a range of adverse outcomes, including infectious diseases and other mental health problems (Rubenstein et al., 2016), reoffending on release, re-incarceration and death (Chang et al., 2015; Millson et al., 1995; Spohn & Holleran, 2002). The more severe the SUDs, the higher the risk for return to prison within a short period after release (Millson et al., 1995). Nigerian Prisons (now referred to as Nigerian Correction Centres) are deplorable and overcrowded, with inadequate medical care, grossly inhumane treatment, and rife with human rights abuses (Agboola et al., 2017; Nwefoh et al., 2020). The number of pre-trial detainees is estimated at 70%, which is expensive to maintain (Olutola, 2017). There also are associated cost burdens on incarcerated persons, their families, and their communities (McLaughlin et al., 2016). In addition, the CJS process is slow with observed ineffectiveness of crime control apparatus (Muhammad, 2024). Research findings have shown that the Nigeria prison setting is totally ineffective in the areas of reformation, rehabilitation and reintegration of inmates (Eme et al. 2010; Olutola, 2017), which is not an exception for people with SUDs. Moreover, imprisonment does not motivate inmates to reduce their substance use behaviour in prison (Stoever et al., 2008) and not an ideal place to manage inmates with SUDs (Beijersbergen et al., 2014). Where there are no treatment interventions as an alternative, inmates with SUDs will continue substance use in prison which is a risk factor for recidivism, aggression and crime among inmates (Emilian et al., 2025).

1.3 Cost-benefit of ATI

Several studies have reported the opportunities and cost benefits of ATI (McLaughlin et al., 2016; Wolff et al., 2011). For example, a study conducted by the United States Justice Policy Institute reported that drug treatment in prison as an alternative to incarceration yields a return on investment of USD \$1.91 to \$2.69 for every dollar invested, while treatment programmes outside of prisons yield up to USD \$8.87 for every dollar invested (McVay et al., 2004). Studies conducted in England and Wales show that ATI is more effective at reducing recidivism, and more cost effective than imprisonment (Matrix Knowledge Group, 2007). In a study of pre-sentenced offenders who received treatment for SUDs in Scotland, Eley and colleagues reported that there was 89% reduction in money spent on purchase of substances. Participants were sober and able to go to work, there was a significant increase in persons employed while still in treatment and afterwards, and there was a significant reduction in the risk of future arrests (Eley et al., 2002). Similarly, in the Netherlands, offenders who received community-based treatment were 47% less likely to be rearrested compared to offenders who were released from prison without treatment (Wermink et al., 2010). In addition, receiving treatment in prison has additional benefits, including reducing the risks of self-harm and suicide, drug-related deaths upon release and reoffending (Emilian et al., 2025). Treatment and supervision of offenders within the community setting have also been reported to be much cheaper compared to imprisonment (Burdon et al., 2002; UNODC, 2006).

ATI helps to reduce prison congestion, reduces criminal justice costs and redirects resources from criminal justice to health systems. ATI also redirects law enforcement resources to prevent serious and violent crime, reduces imprisonment and related health characteristics and outcomes, minimizes the social exclusion of PWUD, and creates a climate in which PWUD are less fearful of seeking and accessing treatment, using harm reduction services and receiving HIV/AIDS services. ATI also promotes positive relationships between law enforcement and the community, and protects people from the wide-ranging and debilitating consequences of a criminal conviction and period of imprisonment (Clark et al., 2017). Thus, ATI helps to balance criminal justice and health-care responses to drug use from both a public safety and public health perspectives (UNODC & WHO, 2019).

1.4 Nigeria drug laws and implementation of ATI

There is no specific mention of ATI for PWUD in contact with the CJS in the Nigeria statute. However, certain laws and policies support the possibility of implementing ATI for PWUD in Nigeria. For example, the National Drug Control Master Plan (NDCMP, 2021), the National Minimum Standards for Drug Dependence Treatment in Nigeria (2015) and the National Guidelines for the Treatment of Substance Use Disorders for Nigeria (2019) support access to treatment for PWUD irrespective of the criminal status. The Nigeria Mental Health Act made provisions for persons with mental health conditions in contact with the CJS to be provided treatment (Nigeria Mental

Health Act, 2021). The Administration of Criminal Justice Act provides for Courts to refer offenders for medical treatment, determine the state of mind of offenders and to apply non-custodial measures as part of the sanctions that can be meted out to defendants (Administration of Criminal Justice Act, 2015). Similarly, the Nigerian Correctional Service Act makes provision for the administration of custodial and non-custodial measures (Nigerian Correctional Service Act, 2019). The non-custodial options in Nigeria as non-formal justice crime control have community correction programmes and rely on moral and social institutions to promote lawful behaviour (Muhammad, 2024). Even though surrounded in controversy and with not much empirical evidence to either support or discredit community-driven approaches to crime prevention, courts in Nigeria have commenced using some forms of correction treatments (Muhammad, 2024). Like Nigeria, few countries have ATI explicitly stated in their statutes, but it has evolved through a balance of cost-benefit analysis and judicial discretion. For example, many applications of ATI in Ireland evolved by way of judicial practice with no statutory basis (Connolly, 2006). Therefore, implementation is heavily dependent on the willingness of the judiciary to apply the principles of ATI.

1.5 Need for capacity building on ATI

Nigeria has long been plagued by the burden of disease and social problems resulting from substance use (Agwogie & Bryant, 2021). The National Drug Law Enforcement Agency (NDLEA) (2017) cited the significant increase (13.5%) in total drug seizures between 2016 and 2017 as an indication of higher demand for psychoactive substances in Nigeria. The extent of this demand is documented in the first comprehensive national drug use survey conducted in Nigeria (UNODC, 2018). More worrisome is the high prevalence of substance use among prison inmates which is estimated at 70%.

Despite the evidence of substance use in the prison setting and the high prevalence of substance use among prison inmates and the negative economic impacts, overcrowded prison settings, recidivism, limited access to treatment for SUDs, and the benefits of ATI, there are no significant efforts for the implementation of ATI for people in contact with CJS in Nigeria. Furthermore, there is a dearth of studies on the prevalence, pattern and economic cost of substance use among the prison inmates in Nigeria due to limited capacity of stakeholders on ATI and little is being done to equip stakeholders with the necessary knowledge and skills on ATI for this population. These factors demonstrate the need for capacity building of stakeholders to undertake the practical introduction of ATI into drug control measures in Nigeria. This entails the training of stakeholders including law enforcement and custodial personnel, judicial and medical personnel and operators of Civil Society/Non-Governmental Organisations to facilitate the development of ATI in Nigeria. This paper describes the evaluation of pilot training of stakeholders on ATI in Nigeria to meet the broad goal of ATI and global trend in drug control. It is believed that data from this study will contribute to filling the gaps on public health approach to the management of people with SUDs in contact with CJS in Nigeria, as well as guiding policies on ATI.

2 METHOD

2.1 Procedure

The training was organised by the ECOWAS Commission in Lagos State as a pilot project. As a first step, the major stakeholders in ATI were identified through mapping in line with job descriptions followed by letters of invitation. While some participants were invited directly, based on their expertise, others were invited through their organisations. Information collected at registration included age, gender, highest level of education, field of study, years of experience in the substance use field, and the organisational setting or workplace (e.g., NGOs/CSOs, Law enforcement, treatment facilities). Data were entered into an Excel spreadsheet.

The ATI training manual developed by the Colombo Plan Drug Advisory Programme included 10 modules and was used to deliver training over a 4-day period. The training provided relevant knowledge to stakeholders about the rationale and the existence of a variety of practices for treatment and care for people with SUDs who are in contact with the CJS. One of its aims is to help the criminal justice actors understand how treatment works and to help treatment service actors understand how the CJS works. More importantly, the training describes opportunities to bring SUDs treatment and CJS into alignment and help understand the multiple possible perspectives regarding that cooperation and benefits. See Table 1 for a description of the 10 modules included in the training.

2.2 Knowledge assessment

Knowledge was assessed using a validated pre and post training instrument adapted from the ATI training manual (Colombo Plan Drug Advisory Programme, 2020). The instrument consisted of 8 multiple-choice questions and 4 true/false questions designed to assess knowledge gain. Examples of the multiple-choice questions are, “according to survey results, the main reason people who need substance use treatment do not receive it is”, (a) treatment was not available or difficult to get, (b) lack of insurance coverage/inability to pay, (c) didn’t think they needed treatment, (d) previous bad experience in a treatment programme, and (e) none of the above. Another item asked, “which of the following are factors that indicate a poorer prognosis as far as recovery from a substance use disorder and less future criminal activity”, (a) onset of delinquency prior to 16 years of age, (b) anti-social personality disorder, (c) current age older than 25 years, (d) the first two options only and, (e) none of the above. Examples of the true/false items are, “only about 10% of those in the criminal justice system who need substance use treatment actually receive it”, (T/F). Another question was, “substance abuse, unemployment, and poor educational achievement are important risk factors for criminal recidivism”, (T/F). Each of the 12 test items were rated equally and coded 1 for correct answer with 0 as incorrect answer. The instrument was first piloted with a working group to verify face validity, readability, and suitability within the Nigerian context. No changes were made to the original instrument. A paired samples t-test was conducted along with Cohen’s D using standard deviation

(SD) of pre–post difference scores to assess effect size (Salkind, 2010). Analysis was carried out using SPSS Version 27.

2.3 Post-training evaluation

The post training survey consisted of 24 test items to assess aspects of the training across 5 domains: course content and design; programme delivery; training relevance; practitioners’ development of self-efficacy and feasibility of implementation. Twenty of the test items were adapted from the UPC Core Manual (Agwogie and Bryant, 2021). The remaining 4 items were developed and piloted by the authors to verify face validity, readability, and relevance to the knowledge and skills targeted in the training. The survey was administered on the last day of the training. Answers were based on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Means, SDs and Cronbach alpha were calculated under each domain.

To solicit comments on participants’ experiences and guide future training, the survey included five free-text questions asking participants: What did you like most about the training? What did you like least about the training? What are the likely barriers to the implementation of ATI in Nigeria? What information (if any) was missing from the training that you think is important? Do you have any other comments or remarks? Comments were entered into a Word document and analysed thematically using the five-step Framework Method for qualitative data (Gale et al., 2013; Pope et al., 2000). This approach was preferred for its utility in bringing programme theory to the surface. Analysis was grounded in the original accounts of the practitioners but began deductively by drawing a priori on the aims and objectives of the ATI training and Community of Practice (CoP) theory.

A conceptual framework was developed by the lead author to begin a content analysis process, bring the fractured data together into a coherent whole and to support understanding of the relationships between categories. As an initial step in the development of the framework, the lead author, who has had previous qualitative research experience, reviewed the responses to identify preliminary themes and coded the data. The coding was independently reviewed by the two co-authors who also are experienced in qualitative research. To monitor the developing interpretations and constructions, reflective journaling was conducted throughout the process. Frequent interactive sessions were held by the lead and co-authors which provided an excellent opportunity both to discuss the development of new themes and to question and confirm saturation of themes. Disagreements at every stage of the process were resolved through meetings of the authors.

2.4 Trainer proficiency

The participants were asked to rate their facilitators in five areas. Two address individual characteristics: knowledge of subject matter and demeanour. Three items are related to process: participant engagement, supervision of the training environment, and time management. For each question, facilitator proficiency was measured on a 4-point scale: 1=Developing, 2=Adequate, 3=Approaching proficiency, and 4=Proficient.

Table 1 | ATI Training Manual, Learning Objectives

Modules	Learning Objectives
Module 1: Welcome and Introductions	• To increase participants' sense of comfort and belonging • To provide general overview of the information presented, the format of the presentations and discussions, and the expectations of participants • To establish group norms and guidelines for activities and discussions
Module 2: Framing the Challenge of Drug Use and Justice Involvement	• Explain incarceration levels around the world • Identify the negative consequences associated with substance use disorders and justice involvement and their impact on individuals, public systems, and society • Illustrate the prevalence of substance use by those involved in the justice system • Describe the lack of treatment resources available to individuals encountering the justice system
Module 3: The Science of Addiction and Recovery	• Describe substance use disorders as chronic and relapsing brain condition with behavioural expression • Describe the effects of substance use on the brain • Describe the neurophysiology of recovery
Module 4: Evidence-based Treatment in the Justice System	• Describe the impact of treatment for substance use disorders on recidivism, crime, and employment • Identify effective and ineffective aspects of offender treatment programmes • Describe core elements of evidence-based treatment for substance use disorders in the justice system
Module 5: Managing Risk and Needs in Designing Effective Drug Treatment	• Describe the role of criminal risk, risk factors/needs related to arrest, and responsivity in offender treatment • Describe several different types of screening and assessment that are needed to address offenders' drug treatment needs • Describe a systems-level approach to screening, assessment, and services planning, based on the Risk-Needs-Responsivity (RNR) model
Module 6: A Systemic Approach: Models of Alternatives to Incarceration Across the Justice System	• Identify Building Blocks for Alternatives to Incarceration – Time continuum – Systems coordination (systems, actors, roles) – Risk/Need Based Interventions • Understand International Standards • Describe Key Models of Alternatives to Incarceration
Module 7: Screening and Assessment for Effective Systems Change	• Understand how screening and assessment differ • Determine what you have and where it is being utilized • Determine what you need and how to increase access to screening and assessment • The purpose of this module – Adopt screening and assessment as a systems approach, not just as isolated cases
Module 8: The Role of Case Management in Alternatives to Incarceration	• Understand how case management interacts between the justice and health systems • Understand the critical elements that maximize the benefit of case management • Understand the components of a clinical case management model • Understand the benefits of case management
Module 9: Assessing Your System for Alternatives to Incarceration	• Distinguish between systems and other changes • Define what a system is • Understand the purpose and benefits of systems change
Module 10: Systems Design and Action Plan Participants	• Understand what challenges the country would like to address through ATI • Prioritize the policymaking actions that will enhance ATI • Come to consensus on actions to include in an action plan

2.5 Training environment

Participants were asked to grade training environments and logistics. These are communication/information prior to the training, group selection (participants as representations of major stakeholders on ATI), training venue, feeding and technical inputs. Items were measured on a 5-point scale: 1=Poor, 2=Fair, 3=Good, 4=Very Good, and 5=Excellent.

3 RESULTS

3.1 Participants

Thirty-six participants from 4 major ATI stakeholders work settings received the 4-day training conducted in December 2025 in Lagos State. The majority (80%) were above 40 years of age, and over 65% had more than 10 years of experience in the field of drug control. Just over half of the participants were

male. Over two-third of the participants possessed master's degree or PhD across the fields of medicine, social sciences, law, management and accounting (see Table 2).

Analysis of pre- and post-test knowledge was completed on 35 participants who completed assessments at both timepoints. Cronbach alphas were acceptable ($\alpha = 0.70$ pre; 0.73 post). Pre-course knowledge ($M = 6.37$, $SD = 1.42$) was significantly lower than post-course knowledge ($M = 9.91$, $SD = 1.29$), for a difference of 3.54 ($SD = 0.12$), $p < .001$, Cohen's $D = 2.61$.

Table 2 | Demographic characteristics of participants ($n=36$)

Variables	Frequency	Percentage (%)
Gender		
Male	19	53
Female	17	47
Age (years)		
21-30	2	6
31-40	5	14
41-50	9	25
51-60	20	55
Education		
Secondary school certificate or equivalent	0	0
OND, NCE or equivalent	0	0
First degree or equivalent	9	25
Master's degree or equivalent	19	53
PhD	8	22
Course of study/specialization		
Medicine	9	25
Social sciences	9	25
Law	5	14
Management & Accounting	7	19
Others	6	17
Work setting		
Treatment Facilities	8	22
Law Enforcement	9	25
NGOs/CSOs	9	25
Judiciary/Human Rights	6	17
Others	4	11
Years of experience in the field of drug control		
Less than 5 years	8	22
6-10	4	11
11-15	6	17
16-20	7	19
21-25	6	17
26+	5	14

Table 3 displays results for the post training evaluation. The survey questions were re-ordered for the purpose of presentation. Out of the total number of participants, 33 (92%) completed the post training evaluation. Findings were notably consistent across each domain.

3.2 Manual and content design

Nine test items measured manual and content design with mean ratings of 4.51 on the 5-point scale. Reliability was acceptable ($\alpha = 0.79$). All participants agreed that objectives and outcomes were clear, content was up to date, materials were useful, and that the number and sequence of topics were sufficient to achieve training objectives.

3.3 Programme delivery

Mean ratings from the 4 evaluation items were between 4.58 and 4.67. Reliability was acceptable ($\alpha = 0.79$). All agreed that the training methods promoted maximum learning experiences, training activities and illustrations reinforced the learning of important concepts, and that content, activities, and interaction were well balanced.

3.4 Course relevance

Mean ratings were between 4.70 and 4.79 on the 5-point scale. Reliability was acceptable ($\alpha = 0.65$). Practitioners agreed that course content was relevant, would be useful to their work environment, was stimulating, and provided them with new insights and knowledge about ATI. Three test items measured this domain.

3.5 Development of self-efficacy

Mean ratings from the 4 items were above 4.7 on the 5-point scale and reliability was acceptable ($\alpha = 0.79$). All participants felt that they were better equipped to deliver components of ATI, were motivated, felt capable to advocate for and discuss ATI with people and organisations.

3.6 Feasibility of implementation

Mean ratings from the 4 items was 4.63 on the 5-point scale and reliability was acceptable ($\alpha = 0.70$). All participants felt that it is feasible to implement ATI in Nigeria.

Table 4 displays participants' assessment of facilitators on a minimum scale of 1 and maximum of 4 points. The scores for each facilitator on each of the measures were summed and converted to percentage. Only participants who rated the 3 facilitators on all the measures ($n=33$) were included in this computation. The outcomes were grouped into four; developing (0 – 25%) to proficient (76 – 100%) to describe the level of proficiency of the trainers. Participants' ratings placed the three

Table 3 | Post Training Evaluation

N=33	Rating Scale: 1=Strongly Disagree; 5=Strongly Agree	Mean (SD)
Manual Content & Design		
1: Course content is consistent with the training objectives and outcomes		4.76 (0.44)
2: Course content provides up to date information		4.55 (0.51)
3: Training materials are adequate and useful		4.61 (0.50)
4: Training objectives are clearly stated and measurable		4.85 (0.36)
5: Sequence of training manual is organised and easy to follow		4.64 (0.49)
6: Number of modules is sufficient to achieve objectives		4.39 (0.79)
7: Sufficient time is allotted to accommodate trainees' inquiries		4.24 (0.50)
8: The time allotted is sufficient to cover the topics and exercises in the manual		4.15 (0.57)
9: The graphics are culturally appropriate		4.39 (0.56)
Domain-level scores ($M = 4.51, SD = 0.50, \alpha = 0.79$)		
Programme delivery		
10: The training methodology used promotes maximum learning experiences		4.64 (0.49)
11: The training activities reinforce the learning of important concepts		4.58 (0.50)
12: The illustrations used are relevant and reinforces important concepts		4.58 (0.50)
13: Training approach is well-balanced in terms of contents, activities and interaction		4.67 (0.48)
Domain-level scores ($M = 4.62, SD = 0.49, \alpha = 0.79$)		
Relevance		
14: I believe this training will be useful in my work environment		4.70 (0.47)
15: The training has stimulated and provided me with new insights and knowledge about ATI		4.79 (0.42)
16: The course content is relevant to my work		4.70 (0.53)
Domain-level scores ($M = 4.73, SD = 0.47, \alpha = 0.64$)		
Self-Efficacy		
17: I feel better equipped to advocate for and deliver some components of ATI		4.73 (0.52)
18: This training has stimulated me to inform others about what I have learnt these past days		4.79 (0.42)
19: I have learnt new things that I feel I will be able to pass onto others		4.73 (0.45)
20: I feel more capable to discussing ATI with people and organizations in this field		4.82 (0.39)
Domain-level scores ($M = 4.77, SD = 0.45, \alpha = 0.79$)		
Feasibility		
21: I feel it is feasible to implement ATI in Lagos State and Nigeria		4.91 (0.29)
22: There are no national or state laws/policies against the implementation of ATI in Lagos State and Nigeria		4.42 (0.66)
23: Stakeholders in drug control in Lagos State will welcome the implementation of ATI initiative in Lagos State		4.52 (0.62)
24: I feel policy makers will welcome the implementation of ATI initiative in Lagos State and Nigeria		4.67 (0.48)
Domain-level scores ($M = 4.63, SD = 0.51, \alpha = 0.70$)		

Table 4 | Assessment of Facilitators

	Knowledge of subject	Participant engagement	Supervision of training environment	Time management	Demeanour
Trainer 1	96.21	95.46	97.00	93.94	95.46
Trainer 2	95.46	93.18	92.42	95.46	95.46
Trainer 3	93.18	90.91	90.91	93.18	91.67

N = 33. Scale: Developing (0-25%) Adequate (26-50%) Approaching Proficiency (51-75%) Proficient (76-100%)

facilitators in the highest band in subject knowledge, their ability to engage participants in the learning process, supervision of the training environment, time management, and demeanour.

Table 5 displays participants' assessment of training environments on a minimum scale of 1 and maximum of 5 points. The means and percentage for each measure were calculated. Only participants who graded all the measures ($n=33$) were included in this computation. Participants graded all the items above 4 points except ratings on communication/information prior to the training.

Table 5 | Grading of Training Environment

	Mean (%)
Communication/information prior to the training	3.8 (75)
Group selection (participants as representations of major stakeholders on ATI)	4.1 (82)
Training venue	4.9 (98)
Feeding	4.9 (98)
Technical inputs	4.5 (90)
N=33 Rating Scale: 1=Poor; 5=Excellent	

3.7 Thematic Analysis

Out of the 33 surveys completed, there were 175 responses to the questions posed, which were distributed accordingly Q1: What did you like most about the training? ($n=35$); Q2: What did you like least about the training? ($n=30$); Q3: What are the likely barriers to the implementation of ATI in Nigeria? ($n=41$); Q4: What information (if any) was missing from the training that you think is important? ($n=29$); Q5: Do you have any other comments or remarks? ($n=40$).

After viewing the data set as a whole, comments were organised into five themes: Facilitators, Community of Practice, Social Validation, Programme Adaptation, and Barriers. The following comments exemplify categories in each theme.

Theme 1: Facilitators

This theme was broken down into three interrelated categories.

Characteristics: Positive comments about facilitators' characteristics (their competence, commitment, simplicity of delivery, versatility, wealth of experience) were consistent with findings from participants' assessment of facilitator proficiency in Table 4.

Programme Delivery: These comments align with adult learning principles. For example, simplifying tasks for manageability inspires learners to extend their current skills (Lave & Wenger 1991). As one respondent noted, "the methods used to impart the knowledge by the facilitators was fantastic", another one commented, "the facilitators are knowledgeable about the topics and delivered them seamlessly". They also reflect the pivotal role of facilitators' Form of Delivery (FoD) (Dombrowski et al., 2016), the ability of facilitators to guide, impart skills, and use effective examples to bring the content home are important.

Management: Comments in this category also reflected trainer proficiency and the quality of programme delivery. Participants felt free to engage and ask questions and found facilitators' responses productive. As one participant commented, "every question raised was answered convincingly", Another noted, "nobody is wrong; corrections are made immediately to the satisfaction of all which was very helpful". These responses reflect the importance of managing training as an informal non-threatening environment with positive and constructive feedback (Hammick et al., 2007). Taken together, these comments are consistent with adult learning principles and bear directly on the Community of Practice theme.

Theme 2: Community of Practice

Interaction: These comments provided insight into participants' interactive experiences and highlight salient features of the CoP model. Mutually beneficial reciprocal learning is essential for a successful CoP. Some of the comments were, "I like every aspect of the training, the wealth of information provided by the participants, and the interactive session" and "interdisciplinary selection of participant and cross fertilisation of ideas from various professionals". Practitioners valued interactions with "fellow learners", "the opportunity to share knowledge," and how their views were accommodated. Other comments reflect the expected benefits to learning. For example, interactions during group exercises brought "life to the training", "drive home the point" and resulted in "additional knowledge." One of the participants summed it up this way, "everyone was superb; the facilitators and the participants".

Practice: Participants valued the practical aspects of the training, commenting on the value of an exercise in system design and gaining in-depth knowledge about ATI through action plans. One of the participants wrote, "a timely workshop to improve the idea of ATI on both public servants and CSOs". Others wrote, "I learnt a lot that we can achieve more when using ATI, provide treatment for people with substance use disorders to reduce both substance use and crime rather than incarceration", "the training provided the platform to raise awareness on the need to implement ATI in Nigeria", "it gave a new perspective on how to approach the issue of substance use". These are significant learning outcomes and highlights the importance of modelling. Participants need to develop new insight to translate and communicate ATI to their staff, decision-makers, community leaders, and the public.

Theme 3: Social Validity

These comments highlight the practical, professional, and societal value of the training. Noting that the training was worthwhile and was described with words such as, "excellent", "very informative and impactful", "exceptionally good", "deep learning", "thought provoking", "very insightful", "interesting and highly rewarding". Some of the participants noted, "I have benefited from this training and acquired deep knowledge to save the victims", "ATI is a great idea, it is remarkable indeed, it will help individuals to contribute to national development rather than being a threat to the community", "the training is relevant to my field and it's much appreciated". Several recommended that

the training be implemented across the zones and states with more stakeholders like the policy makers, legislators, professionals, traditional and community leaders. Similar comments included: “Thank you for the opportunity to participate in this fantastic training;”

Theme 4: Adaptations

Training duration: According to the survey results, the time allocated for training was sufficient but the mean for this item was the lowest recorded. One of the participants commented, “I would have preferred that the training was for five days to allow more time for discussion, questions and perspective on cases”. Another participant noted, “even though more time would have been needed for the training, the facilitators managed it well”.

Adaptation to context: While only a few comments were related to this category, they deserve mention. Some participants expressed the need for “related local statistics and data”. One of the participants commented, “no data on the number of persons with substance use disorders who come in contact with the criminal justice system in Lagos State or Nigeria”. Considering the limited knowledge and expertise in ATI and long held negative perception of PWUD in Nigeria, accumulating relevant local data will take time.

Training environment: Comments on this session related to communication prior to training, venue, feeding and technical inputs (table 5). The comments aligned with the grading with communication prior to training. One of the participants wrote, “communication prior to the training should have been better handled”. On the other hand, others wrote, “what I liked most was the convenient environment and good meal”, and “the conducive environment was excellent for me”.

Theme 5: Barriers

Bureaucracy: Comments in this category reflected lack of cooperation among government functionaries, unnecessary delays as well as organisational peculiarities. Comments included: “there are too many officials involved in the criminal justice system and each doing the biddings of their organisation or boss”, “the culture of organisations in the criminal justice system could be very resistant to change”, and “heads of organisations are somehow difficult to convince on this type of initiatives in order to protect their jobs”.

Resources: Comments relating to resources included human, material and financial resources. For example, one of the participants wrote, “much resources will be needed to provide standard treatment facilities for the implementation of ATI”. Others wrote, “lack of professional manpower and facilities will be a barrier”, and “ATI will need human resource with professional expertise and knowledge about substance related issues who are well remunerated”.

Perception: These comments highlighted the public perception of PWUD, doubt about effectiveness of treatment and the believe that PWUD should be removed from the public through incar-

ceration for public interest. One of the participants commented, “some communities will not accept this, instead they will prefer prolonged incarceration. They don’t even believe treatment works”. Another wrote, “people in the criminal justice system don’t even believe that addiction is a brain disease, they see more of the criminality”. Another wrote, “there is high level of stigma for people who use drugs, they will need much education to change their mindset”.

Policy: While only a few comments were related to this category, they deserve mention. Comments related to the provisions of the laws with some level of uncertainty. This may not be unrelated to limited knowledge of the provision of the law. For example, “the existing laws may not have specifically captured ATI for people who use drugs”.

4 DISCUSSION

We report here the outcomes of a pilot training of stakeholders on ATI as an effort towards the practical introduction of ATI into the drug control measures in Nigeria. To our knowledge, this is the first study to report on the development of ATI in Nigeria. It is also the first step toward socializing stakeholders into the concept, values, ethics, and terminology of ATI in Nigeria. Evaluating the effectiveness of training programme is an important step as it is carried out to see how well the training objectives have been met and whether it is the best method for achieving those objectives (Niraj et al., 2010).

Despite the extraordinary burden of substance use in prison setting in Nigeria and the effect on recidivism, interventions are hampered by the limited capacity of stakeholders (Agwogie & Bryant, 2021). Additional problems include resistance to change among stakeholders, lack of funding for drug-based interventions, and apathy toward programme monitoring and evaluation (Agwogie & Bryant, 2021).

The implementation of evidence-based drug treatment programmes in prison is rare, yet drug treatment in prison reduces the transmission of infections, recidivism, fatal overdose on release, reduce or stop substance use thereby improving the quality of life. From a public health perspective, the high rates of substance use in the prison setting represent an opportunity for intervention, interrupt the cycle of drugs and crime by providing treatment in the justice system.

Incarceration has traditionally been justified based on its assumed effect on deterrence, crime reduction, rehabilitation and retribution. Recognising the negative returns associated with incarceration, many jurisdictions have begun to consider alternatives such as decriminalisation of drug use, provision of treatment and social reintegration of offenders, a shift in focus from supply reduction to demand and harm reduction measures in the community. However, this has not been the case in Nigeria.

The capacity building was undertaken as an important first step toward addressing gaps amongst stakeholders on ATI. The outcome of this study demonstrated significant objective knowledge gains related to the consequences associated with

SUDs and justice involvement and their impact on individuals, public systems, and society; the prevalence of substance use by those involved in the justice system; and the impact of treatment for SUDs on recidivism, crime, and employment. An effective training programme is one that addresses training needs and delivers training according to training objectives (Devi & Shaik, 2012). Equally important, participants reported a sense of self-efficacy in their ability to communicate with other stakeholders. Having confidence in one's ability to perform specific skills increases the likelihood of their application in practice (Arora et al., 2010). Participants also reported the feasibility of implementing ATI in Nigeria. The stakeholders in this study represent diverse disciplinary backgrounds, work settings and environments. That they unanimously agreed on the relevance of training to their work demonstrates the feasibility of implementing ATI across Nigeria. The facilitators, teaching methods, and collaborative nature of ATI were highly rated, indicating that the trainers are well grounded and that their professional trainings align with educational best practices. Principles of adult learning are key mechanisms for well-received interprofessional education and facilitator development is essential to programme effectiveness (Hammick et al., 2007). The quantitative and qualitative data provide support for the Community of Practice model (Wenger, 2010).

From the findings, implementation of ATI in Nigeria will be dependent on all stakeholders and the willingness of the judiciary to apply the principles of ATI and utilise the window of probation and medical reports to be made available to the court prior to sentencing. The Nigerian Correctional Service Act (2019) makes provision for the administration of custodial and non-custodial measures. The non-custodial options incorporate community correction programmes, leveraging moral and social institutions to promote lawful behaviour, thereby providing a proactive approach to addressing crime.

Evaluation in this study focuses primarily on immediate training outcomes, including knowledge acquisition, participant satisfaction, self-efficacy, and feasibility of implementation. Considering that improved knowledge and positive attitudes do not necessarily translate into subsequent organisational change, implementation fidelity, or long-term behavioural outcomes, future research should focus on longitudinal evaluation of ATI implementation within the Nigerian criminal justice system.

4.1 Limitations

This study has a limitation of small sample size, as a larger sample size tends to be more representative. It is suggested that future studies use a larger sample size to improve the value of the study. The analyses were limited to only one training programme, lack control group and a central mechanism for following up with participants. Data from several training programmes and with control group could provide different findings. Bias is inherent in subjective assessments of self-efficacy and selection of stakeholder organisations with individuals who likely have high motivation and professional interest in addiction policy. Thus, the findings may not be fully generalisable to the broader criminal justice workforce in Nigeria.

5 CONCLUSION AND RECOMMENDATIONS

SUD is a complex biopsychosocial health condition characterized as a chronic and relapsing disorder with associated negative consequences. People with SUDs are usually in denial and not seeking treatment, coming into contact with the CJS provides an opportunity to encourage them to receive appropriate treatment. Findings from this study demonstrate feasibility of providing the necessary support to this population through the CJS. The paper aimed to evaluate the effectiveness of ATI training programmes and the feasibility of implementing ATI for people in contact with CJS in Nigeria. Using the Kirkpatrick's four levels of evaluation model, this paper specifically (i) considered the feasibility of implementing ATI in Nigeria; (ii) determined whether the programme was delivered as designed; (iii) determined whether training objectives were met; (iv) highlighted connections between the CoP model and essential components of the implementation process; and (iv) assessed trainer proficiency. The findings of this study showed that most of the respondents were pleased with the content of the modules, the facilitators style of facilitating, the overall effectiveness and the knowledge gained as well as the learning environment.

Taken together, these findings suggest that it is feasible to assess, identify, and provide treatment as alternatives for PWUD at all stages of the CJS in Nigeria. The realization of these goals will depend on collaboration among the components of the CJS: the law enforcement, the judiciary and correctional system; treatment providers and policy advocates.

Barriers to the implementation of ATI in Nigeria were also identified. These barriers related not only to doubt about the effectiveness of treatment, but also to lack of knowledge on ATI and its application, limited economic resources, infrastructure, and means necessary to serve this specific population, as well as human resources with professional expertise and knowledge about substance use-related issues. In addition, there is limited community capacity to support the implementation of ATI considering community stigma associated with drug use.

For effective implementation of this initiative in Nigeria, the following are recommended: Engage communities effectively on the implementation of ATI; expand capacity building of stakeholders on ATI; expedite criminal investigation and court hearing processes; reform the CJS to be more effective and responsive; build trust between communities and law enforcement; facilitate sharing of information and promote a collaborative approach to crime prevention. Advocacy for legislative reform, where necessary, and multi-agency collaboration and on cost benefits of ATI are recommended.

Ethics approval and consent to participate

Ethics approval for the study was neither obtained nor a waiver obtained as these were not anticipated considering that it is a low-risk anonymous training evaluation with informed consent obtained from the participants.

Informed consent

Electronic informed consent was obtained from all participants prior to participation. Participants also consented to the use of anonymized quotations for research and publication purposes.

Consent for publication

Not applicable

Data availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request, subject to applicable ethical and confidentiality restrictions.

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Competing interests

The authors declare that they have no competing interests.

Authors' contributions

MOA: Conceptualization; Methodology; Investigation; Formal Analysis; Data Curation; Writing – Original Draft. DA and SNK: Investigation; Writing – Review & Editing. All authors reviewed and approved the final version of the manuscript.

Declaration of generative AI and AI-assisted technologies

The authors declare that no generative AI or AI-assisted technologies were used in the preparation of this manuscript.

Trial, study, or review registration

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